4-28-13-10M

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—PRESENTED TO—

The New York Academy of Medicine.

By Kentucky State Medical
Association. 19

KENTUCKY

MEDICAL JOURNAL

PUBLISHED BI-MONTHLY

BY THE

KENTUCKY STATE MEDICAL ASSOCIATION
(INCORPORATED)

EDITED BY

ARTHUR T. McCORMACK, M.D.

UNDER THE SUPERVISION OF THE COUNCIL

VOLUME XI.

THE N. Y. ACADEMY
OF MEDICINE
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1914

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THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.

Diabeteic Foods.—From an exhaustive examination of diabetic foods, made in the Connecticut Agricultural Experiment Station, Street and Mendel conclude that the following conditions should applyt o such a product: 1. It should contain much less carbohydrate than is found in a normal food of the same class—certainly not over half as much. 2. The label should bear a correct statement of the percentages of protein, fat and carbohydrates present. 3. The amount of the different carbohydrates present should be declared on the label, that is, starch, sucrose, levulose, lactose, etc. 4. The processes of manufacture should be so standardized that uniformity of composition, within reasonable limits, will be maintained from year to year. 5. No statement should be placed on the label which would give the impression that any food in unlimited quantity is suitable for a diabetic patient. 6. In the advertisements of these foods emphasis should be put on the carbohydrate content rather than on the amount of protein present.—(Jour. A. M. A., Aug. 30, 1913, p. 687).

The Therapeutic Range of Salvarsan.—Experience has shown that a complete cure of syphilis cannot be secured uniformly by one or two injections of Salvarsan or Neosalvarsan. But Salvarsan does effect what must be termed a therapia magna sterilisans in certain human diseases. This is true of recurrent fever which is caused by a variety of spirocheta, frambesia or jaws, a trophical disease resembling syphilis and caused by a spirocheta. Numerous infectious diseases of different nature are said to be favorably influenced by its use (scarlet fever, small-pox, glanders, etc.) Vincent's angina and other lesions due to oral spirochetes appear to yield rapidly to Salvarsan. Aleppo boil and other diseases caused by the organisms of the Leishmania group are also said to yield to Salvarsan.—(Jour. A. P. A., Aug. 30, p. 686).

Emetic Action of Digitalis.—Cary Eggleston concludes that there is no valid experimental or clinical evidence that therapeutic doses of digitalis cause nausea or vomiting through local irritant action of the alimentary tract, but that there is much evidence that the vomiting is not caused by such local action. He states that there is experimental evidence that the nausea and vomiting resulting from therapeutic quantities of digitalis principles are due solely to their action on the vomiting center and therefore result only after the employment of a sufficient amount of drug. Eggleston concludes that it is fallacious and irrational to attempt to avoid these symptoms resulting from the oral administration of any given digitalis preparation by resorting to another preparation or to another channel of administration.—(Jour. A. M. A., Sept. 6, 1913, p. 757)

Serotherapy of Epilepsy.—Gaspar gives no details but speaks in general terms of the conception of epilepsy as a toxemia, evidenced by the toxicity of the cerebrospinal fluid for animals, and by the efficacy of reinjection of the patient's own cerebrospinal fluid or fluid from other epileptics. The fluid is injected subcutaneously or into a muscle once a week, the amount not over 10 c.c. He queries whether the undeniable unmistakable improvement and even cures realized by this serotherapy can be explained by assuming the existence of antibodies in the fluid.

INDEX NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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PRACTICE OF MEDICINE
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VOL. XI. BOWLING GREEN, KY., JANUARY 1, 1913 No. 1

EDITORIAL.

THE NEW YEAR.

Another year full of opportunity opens up, with the KENTUCKY STATE MEDICAL ASSOCIATION doing well and able and ready to do even more than it has yet accomplished. More county societies have fully met their obligations to the profession and people during 1912 than ever before. Active campaigns have been conducted in seven counties for the betterment of health conditions and we predict that the Vital Statistics returns from these counties will not only be more accurate than last year but will also show a much smaller percentage of sickness and deaths from preventable diseases.

During the year, this ASSOCIATION has pursued its investigations as to the unjust class of malpractice suits, which are, in most instances, mere legalized blackmail, and has been able to save members who have been threatened with such suits much expense and worry.

The Bureau of Vital Statistics has enlarged the scope of its work and is making a great record in every way. Its reports are increasingly accurate and it has received a kind of support from the profession and people that has made it probably the best enforced law ever put upon the statute books. It is a pleasure to congratulate Dr. Heizer again upon the value of his Bureau to the profession and people in promoting longer life and better health, and this year's work again emphasizes the importance of every doctor making more careful diagnosis, keeping more careful records, and being even more attentive to the details and promptness, which are necessary to keep the Kentucky Bureau of Vital Statistics ahead of those in other states.

The second year of the Bureau of Bacteriology has almost doubled the record of the first. More than 1400 doctors have sent in specimens and a few over 130 have averaged more than six specimens a week.

Prof. E. H. Mark is making the Bureau of Sanitary Engineering reach into the real life of every community in the State. The natural increase in population makes the sanitation of water and sewage of increased importance each year. It is especially urged that physicians and others desiring sanitary water analysis write for laboratory containers and instructions as to how to collect and send in samples. It is also to be remembered that industrial analyses are not made in the Laboratory of the Board for obvious reasons.

The JOURNAL itself has the largest circulation, the greatest number of advertising pages and the biggest income it has ever had. It is known to our physicians that every cent of its income is spent in printing a bigger and better JOURNAL. We are, of course, dependent upon our members for its scientific value, as well as for knowledge of the things of interest that are occurring in the various sections that should be known to the whole profession. If you are not helping to make the JOURNAL better, it is your fault, and we need and want your help.

Through the active cooperation of the Council with the State Board of Health, a large firm of advertising quacks has been convicted and driven from the State. Successful prosecutions have been conducted in Whitley, Knox and a number of other counties. During the last session of the Legislature, a vicious attack upon the State Board of Health, inaugurated and engineered by a disappointed, envious, office-seeking physician, was easily and successfully met and defeated. During the coming year, we may expect these and other similar attacks as are always inspired by success, but confident of the integrity of the members of our State Board of Health and of the justice and good sense of the doctors and people of Kentucky, the organized medical profession and all of its agencies look forward to the year 1913 as affording another 365 days during which we may labor together to make Kentuckians healthier and to make our State a better one in which to live.

THE TARIFF ON SURGICAL INSTRUMENTS.

To the Editor:—At this time, when tariff revision promises to be the order of the day, would it not be a good idea for the American Medical Association to endeavor to secure the abolition, or at least reduction, of the heavy duty paid by the medical profession of the United States on surgical instruments? It is currently believed that this duty benefits merely two or three importing firms, and perhaps a similar number of instrument manufacturers in America, and this at the expense of the entire medical profession of this country. I have understood, although I cannot speak authoritatively in this matter, that there are one or two instrument importing houses in New York which import German surgical instruments in the rough—that is, not nickel-plated—on which a duty of 5 per cent. is charged, nickel-plate these instruments and then stick on the 40 per cent. duty. Furthermore, the manufacture of surgical instruments in America seems never to have attained to large proportions, and promises not to so do for many years, yet the medical profession must continue to pay this 40 per cent. duty on instruments which half the time they use in performing charity operations. Pertinent to this matter of American instrument manufacture, I recall that a year or so ago I wrote to a Chicago instrument house inquiring why they charged me $2 more for a certain kind of tonsil snare than did a New York instrument house. The reply came that their instruments were hand-forged, and not the cheap German imported instruments; but they had overlooked the important fact that both instruments bore the well-known trademark of Fischer of Jena! So much for the home-grown product. Why should the medical profession of America, with all its political strength, submit to this tariff imposition?

RICHMOND MCKINNEY,
Memphis, Tenn.

Henderson, Ky., Dec. 8th, 1912.
Editor KENTUCKY STATE MEDICAL JOURNAL,
Bowling Green, Ky.

Dear Sir:—I inclose a clipping from the *Journal of the American Medical Association*, page 2085, issue of December 7th, 1912, written by Dr. McKinney, of Memphis, Tenn., which I wish you to publish in our JOURNAL.

The tariff on surgical instruments, and hospital supplies is the most reprehensible and iniquitous item to be found in the entire tariff schedule, and has not the plea "of infant industries" to support it. It is a tariff on the chance of death; a tariff not to help home manufacturies, but a shackle upon suffering mankind to prolong their pain, that a few manufacturers may benefit thereby.

When I was on the Jury of Awards at the St. Louis Exposition, looking over an exhibit of a French instrument house, the gentleman in charge, seeing me admiring an instrument in his exhibit, remarked "Doctor you may have that instrument if you will pay the duty on it." On looking up the tariff we found that the beneficent government of Uncle Sam had placed a duty of $7.50 on an instrument necessary to help in the relief of human suffering.

Another case: Prof. Wasserman of the University of Berlin, once sent me a present of an instrument sterilizer. The price of this sterilizer in Germany was about $12.00. When it arrived on the shores of this Land of the Free, Uncle Sams' custom house officials kindly made me "cough up" $27.00 for the privilege of receiving the present, and of being finicky enough to want to have my instruments clean.

Now, I take it that the KENTUCKY MEDICAL JOURNAL, is not only run in the interest of the profession, but it is also, or should be run for the interest of suffering humanity. Therefore, let us get busy and see that this prohibitive duty on instruments that are used to help relieve suffering humanity, be abolished, or lowered to a reasonable rate. Our JOURNAL represents the Medical Profession of Kentucky. Print a postal and send to every subscriber of the JOURNAL, on this postal, let the doctor write you authorizing you to sign his name to a petition to be sent to the Kentucky delegation in Congress, asking them to use their efforts in having this duty lowered.

Also get the Great *A. M. A. Journal* interested, and it will not be long before our wishes will be enacted in a law.

Respectfully,
CYRUS GRAHAM,
Councilor Second District.

COMPLETE VITAL STATISTICS.

The State Registrar of Vital Statistics is now engaged in summing up the returns of births and deaths by counties for the State.

It is important that every member of this Association feel himself a committee of one to aid him to secure *complete* returns as by this result, alone, will our statistics be of value.

If you know of a death or birth for which a certificate has not been made out, will you forward at once to Dr. Heizer, State Registrar, the name, address and date of birth or death, that it may be included in the annual returns.

He is making a special effort to send vouchers for amounts due physicians and local registrars, early enough for the Fiscal Courts at their first session to allow these claims, thereby avoiding unnecessary delay.

It is with justifiable pride that we are able to report that a careful review of those on file in his office who have been found guilty of violating this law and proven untrue in their duty to the people shows that almost without exception, these offenders are not members of our Association.

The State Registrar will be compelled to prosecute some offenders who have wilfully refused to comply with the law and who are working a great injustice upon all who have done their duty. We hope you will aid him in this disagreeable but necessary task and induce your county society to do likewise.

TYPHO-BACTERIN THERAPEUTIC.

Through the Bacteriological Department of the State Board of Health, arrangements have been made with H. K. Mulford & Co., to supply Typho-Bacterin for the treatment of typhoid fever. It is furnished in aseptic glass syringes, as follows:

Syringe A contains 125 millions killed bacteria.

Syringe B contains 250 millions killed bacteria.

Syringe C contains 500 millions killed bacteria.

Syringe D contains 1000 million killed bacteria.

Per package of 4 syringes, A, B, C, D, as above, $1.20.

THE HENDERSON DAILY JOURNAL.

Many newspapers in the United States are working hard to help improve the public health. This is notably true of the daily and weekly papers of our own State, but even amongst them, the Tuberculosis edition of the *Henderson Daily Journal*, for Sunday morning, December 8th, is noteworthy. It is really the best health issue of any lay paper that has ever come to our attention. The headlines attract the attention of every person interested in the welfare of the human race and the plain but interesting facts throughout the issue compel one to read every line of it. We commend this edition of this paper to the careful attention of the profession of the State and would like for some other county to attempt to get out as good an issue.

BATS SIXTH SENSE.

Sir Hiram Maxim, whose name is almost synonymous with guns, projectiles and powders, and who is the inventor of the "Maxim Silencer," has again come forward with an interesting proposition. He tells us that the naturalist, Cuvier, arrived at the conclusion now generally accepted, that the wonderful power possessed by bats of directing their flight in the dark, was due to the wonderful development of the sense of touch, residing expecially in the wings. We quote from the Literary Digest's selection from the Scientific American, as follows: "Bats that are provided with the so-called sixth sense are very small, and it is probable they make about ten or twelve strokes with their wings in a second of time. This, of course, produces an extremely low note that does not appeal to our ears, but it travels after the manner of sound—or light for that matter—strikes all the surrounding objects, becomes modified by their character and size and is reflected back and these reflections or echoes are received by the organ of this *sixth sense*, and are analyzed exactly as light waves would be by our eyes under similar conditions."

With the disaster of the Titanic still ringing in our ears, and with the brains and genius of the world striving to find some method of overcoming the danger of icebergs, it is gratifying to know that Sir Hiram is ready, electrically, to apply this sixth sense to seagoing vessels. We quote "He has constructed an apparatus that will produce atmospheric vibrations of about the same frequency as those produces by the bat, but of energy at least 300,000 times as great. They will not be audible but will travel at least twenty miles, so that they could be received and recorded by a suitable apparatus at that distance, and would be able to travel at least five miles and to return, back to the ship and reflect an echo that would be strong enough to be detected." He employs a modified form of siren, the disc of which is rotated and suitably speeded by a motor; the vibrations are driven in advance of the ship and when they come in contact with a body, are reflected to the ship again in the same manner, that sound is reflected in an echo, but not audible to the human ear. To appreciate this, he makes an artificial electrical ear, consisting of a large diaphragm, tightly drawn over a drum-shaped cylinder, so arranged that when the vibrations strike, they open and close certain electrical circuits, which ring a series of bells of every size. He is able in this way not only to indicate size and shape with a fair degree of accuracy, but the direction and distance with great accuracy. It will distinguish a ship from an iceberg, and will show whether the object is stationary or moving. We quote Sir Hiram again:

"Suppose that our ship is making twenty miles per hour and we find, upon sending out several blasts, that the echo reaches us in twenty seconds, we infer that, as it took ten seconds for our vibrations to reach the object and another ten seconds for the reflected vibrations to return, the distance is slightly over two miles. Our ship is doing twenty miles per hour, and one minute later we send out another blast, but the result is no stronger than before, so we change the direction of the blast and find that the greatest effect is produced when the blast is sent out dead ahead, also that the distance between the object and our ship is being reduced at the rate of thirty-five miles per hour; therefore, the unknown object is evidently a ship making fifteen miles per hour and traveling toward us slightly to our starboard. Our next blast shows us that the ship is only a mile distant, and very much to the starboard; we follow her direction and when she is in a position to present her broadside to us, we find on sending out a blast that the echo is very strong, the bells at the receiver ring violently and the recorder makes a large and distinct marking on the paper strip. The weather has been so thick that we have not seen the ship, but we have a fair idea of her; we know her speed and the direction in which she is sailing. Later on, we receive a series of records from each blast, showing that there are several small objects in our vicinity, probably fishing-boats. We are able to locate them and measure their distance, and, if any of them are dead ahead of us, we change our direction so as to give them a wide berth. Subsequently, we have a new experience; we send out a blast and receive back an echo showing that there is an exceptionally large object very nearly dead ahead of us.

"We know it is large because the distance indicated is ten miles and the record quite distinct. By sending out repeated blasts, we find that the distance between us and the object diminishes about one-third of a mile in a minute. This, of course, is due to our own speed and indicates that the object is stationary.

"When we are two miles apart, the reflection of our blasts rings the bells and the indicator shows a different record from what we have seen before. The markings on the paper strip are of considerable size and commence sharp and abrupt, but the ending is not sharp or distinct. There is a trailing out of spots made by the zigzag lines.

"The total length of the echo is thus made larger than that produced by the primary blast.

"This shows that there is some kind of a cloud about the object of a different density from the surrounding air and that it is of considerable size; it is stationary and it has something about it that modifies the echo; consequently, the record on the paper strip resembles that obtained from both a large, solid object and a cloud. Therefore, it must be a large iceberg surrounded by cold air. We change our direction so as to pass it on our port side at a distance of half a mile. Fortunately we have barely passed when the fog lifts and discloses an enormous iceberg surrounded by smaller pieces of ice that have been broken off." CURRAN POPE.

THE SECOND ANNUAL MEETING.

Under the heading "Official Announcements," will be found an abstract of the minutes of the Second Annual Meeting of the Kentucky State Medical Society, held in Louisville, on the 20th day of October, 1852. These minutes will be read with great interest by the membership. They are reprinted from the *Medical News and Library,* a journal published at that time in Philadelphia, which is now the property of Dr. McKay, of Bardstown. This copy was secured and sent to the JOURNAL by Dr. Hugh D. Rodman, the most indefatigable county secretary in Kentucky.

OFFICIAL ANNOUNCEMENTS

A GREAT VICTORY FOR THE MEDICAL LAW.

About September 20th, last, a quack concern styling itself variously the Advanced Medical Science Institute, Radio-Electric Company, Whitman Medical Company, Delesh-Etts Manufacturing Company, with an alleged capital stock for each of these of from $25,000 to $2,000,000, and claiming to be a part of the State Land Company, of Oklahoma, with branches in a dozen or more states, began operations in one of the principal office buildings in Lonisvile. Flaming advertisements in the newspapers announced that it had expert diagnosticians and scientific apparatus too costly and accurate for the medical profession to possess or appreciate and in a few days effected cures so numerous and miraculous as to attract a large clientele. The

State Board of Health put the machinery of the law in operation and its special agents, male and female, reported in a few days that Witman, the head of the concern and its expert diagnostician, was not a physician, and that the only physician in it was one who had failed as a practitioner and was employed to legalize its practice at a salary of $15 per week. The scientific apparatus were found fakes worthy of the operators. It consisted of a cheap fluoroscope by which Witman, looking through the body into a blind box, was able to see handfuls of gall stones and stomach, lung and kidney lesions, and to relieve the unfortunates of any surplus cash they had or could obtain.

Twenty indictments were secured at the next sitting of the grand jury, most of them not for violations of the Medical Law it should be observed, and other warrants were taken out from day to day as evidence could be secured. One woman, it is alleged, furnished $3,000 to finance the concern and its defense, able attorneys were employed by it, a virulent crusade was begun in the press against the State Board of Health, the State Medical Association and the American Medical Association, and women were employed in broad and systematic efforts to blackmail and intimidate leading members of the profession, especially those connected with the prosecution or summoned as witnesses. All of this was of no avail. The Attorney of the Board, Hon. Aaron Kohn, to whom chief credit is due for the freedom of Kentucky from open quackery for the last twenty years, had prepared the cases with such care and ability that the women in the concern who had been used in the efforts to discredit members of the profession, turned State's evidence and, as soon as the cases could be docketed and reached, the court proceedings which follow, with other accompanying documents, became a part of the criminal records of the State:

WHOLESALE PLEAS OF GUILT.

State of Kentucky, County of Jefferson; Jefferson Circuit Court, Criminal Division.—Nos. 34782, 34784, 34785, 34786, 34787, 34788, 34789, 34790. Delish-Etts Mfg. Co., Geo. W. Foreman, X. W. Witman, W. M. Foreman, Frances Holst. Failing to File Certificate. No. 34791. Advanced Medical Institute, Geo. W. Foreman, X. Y. Witman, W. M. Foreman, Francis Holst. Unlawfully Practicing Medicine. Nos. 34792, 34793, 34794, 34795, 34796, 34797, 34798, 34799, 34800. Advanced Medical Institute Geo. W. Foreman, X. W. Witman, W. M. Foreman, Frances Holst. Failing to File Certificate. No. 34801. Advanced Medical Institute, Geo. W. Foreman, X. W. Witman, W. M. Foreman, Frances Holst. Unlawfully Practicing Medicine.

At a Court held on the 22nd day of November, 1912.

The defendants appeared in Court in pursuance to their recognizances and by counsel, and tender the following agreed order, which having been signed by defendants and the Commonwealth and the Commonwealth consenting thereto, it is ordered by the Court that the agreed order be filed and entered as a part of the record herein, to-wit:

In the above entitled cases, nine of which charge that the defendants were engaged in business under an assumed name, to-wit, that of the Advanced Medical Science Institute, without having filed a certificate giving the names, place of residence of all persons actually interested and conducting business, and the nature of the business, as required by law; and nine of the indictments charge them with having been guilty of the same offense, with having conducted business contrary to law, in the name of the Delish-Etts Manufacturing Company; and two indictments charging the defendants with having practiced medicine illegally; now comes the defendant, X. W. Witman, and pleads guilty to each of said charges, and agrees that a fine of twenty-five dollars and costs in each of the first eighteen cases be entered against him and a fine of fifty dollars and costs in each of the two last named cases; and the said X. W. Witman, agrees that the said business has been illegally conducted by them and that he will immediately cease to do business in the State of Kentucky and close their offices at 708 Realty Building, and never again either by himself or another, or in any name, corporate, or otherwise, engaged in the business of practicing medicine or treating sick people by any means whatsoever in the State of Kentucky, unless he should have been legally licensed so to do by the laws of the state of Kentucky, before beginning any such practice by any method whatsoever; and the said Frances Holst, comes into Court and files a written statement as to the true facts as to her connection with the matters contained in the said indictment and will immediately cease having any connection with said business, and will in the future have no connection with said business; and as to W. M. Foreman, and said Frances Holst the cases may be dismissed.

The defendant George Foreman pleads guilty to one charge of doing business under the assumed name of Advance Medical Science Institute, and agrees that a fine of fifty dollars may be entered in said one case.

JUDGMENT OF THE COURT.

It is therefore considered and adjudged by the Court that the defendant X. W. Witman s guilty as charged in the above 20 indictments, and defendant George W. Foreman is guilty as charged in one of the above cases, and it is ordered that the Commonwealth recover of defendant Witman the sum of twenty-five dollars in each of the first eighteen above cases, and fifty dollars in each of the last two cases, and its costs expended; and fifty dollars from George W. Foreman in one of the above cases and its costs expended, and comes X. W. Witman and pays to the Clerk of this Court the sum of six hundred dollars in settlement of said fines, and the further sum of $67.50 in payment of the costs herein, and it is ordered that they be dismissed from further custody.

It is adjudged by the Court that defendants Holst and W. M. Foreman are not guilty of the offenses charged in the above indictments, and it is ordered that they be dismissed from further custody.

[A Copy] Attest:
LOUIS SUMMERS, Clerk,
By GEO. P. BUTLER, D. C.

The concern closed its offices within an hour and notices were at once issued for Dr. Geo. W. Foreman to appear before the State Board of Health at its next meeting to show cause why his certificate to practice medicine should not be revoked "for gross unprofessional and dishonorable conduct of a character likely to deceive and defraud the public."

ABSTRACT OF THE PROCEEDINGS OF THE SECOND ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL SOCIETY.

The second annual meeting of this Society, was held in Louisville, on the 20th day of October, 1852, the President, Dr. W. L. Sutton, in the chair.

The roll having been called, a number of candidates for membership were proposed.

After transacting some unimportant business, the Society took a recess until 3 o'clock.

3:00 o'clock P. M.—The Society met pursuant to adjournment, the President in the chair.

Forty-five members were elected.

Dr. Breckinridge, on the mode of proceedings, reported.

On motion of Dr. L. P. Yandell, Drs. Clapp, Leonard, and Steele, of New Albany, Ind., were invited to take part in the proceedings.

On motion of Dr. Raphael, a Committee was named to draft a set of by-laws for the Society, to report to-morrow.

Drs. Rahpael, Dudley, and Drane were appointed.

Dr. Bell presented to the Society a form for a Case-Book, drawn up by the President, which he wished to refer to a committee to report upon.

Drs. Bell, Foree and Chipley were appointed.

Upon motion of Dr. Bell, the order of proceedings was so far modified as to permit Dr. Chipley, Chairman of the Committee on Vital Statistics, to read his report.

On motion of Dr. Evans, it was received, and referred to the Committee on Publication.

*Reprint from the Medical News and Library, Philadelphia.

On motion of Dr. Gross, the Society adjourned to 7 1-2 o'clock.

NIGHT SESSION.

The Society met according to adjournment. Several new members were elected.

Dr. Chipley nominated Dr. Elisha Bartlett of New York, Dr. Gross nominated Dr. Drake of Cincinnati, and Dr. Yandell nominated Dr. Deadrick of Tennessee, as honorable members of this Society, which nominations were concurred in.

Dr. Miller offered the following resolutions, which were ordered to be laid over until to-morrow:

RESOLVED, That the members of this Society will faithfully comply with the regulations of the registration law passed at the last session of the Kentucky Legislature, and do what they can to have it complied with throughout the State.

On motion of Dr. Bell, an invitation was extended to Dr. Charles Caldwell, to visit the Society during its sittings, and participate in its deliberations.

The President, Dr. Sutton, read his annual address, which was received and referred to the Committee on Publication.

The Society then adjourned to 10 o'clock to-morrow.

SECOND DAY'S PROCEEDINGS.

The Society met and was called to order by the President, the minutes of yesterday were read and adopted.

Dr. Gross moved the appointment of the following committees, to report at the next annual meeting of the Society, or as soon thereafter as practicable:

(1) On Medical Biography, or the lives of meritorious or distinguished Physicians and Surgeons of Kentucky.

(2) On Medical Literature, or the History of the Medical Authorship of Kentucky.

(3) On the Relations between Diseases and peculiar Geological Formations.

(4) On the Statistics of Hernia.

(5) On the Statistics of Lithotomy and Calculous Diseases.

(6) On the History and Mode of Management of Hospitals, Asylums, Infirmaries, Penitentiaries and Prisons.

(7) On Suits for Malpractice.

(8) On the Results of Surgical Operations in Malignant Diseases.

(9) On Epidemic Erysipelas.

(10) On Epidemic Dysentery.
(11) On Typhoid Fever.
(12) On Placenta Praevia.
(13) On the Statistics of Remedies in Diseases.

On motion of Dr. Gross, Dr. Drake of Cincinnati, was invited to take part in the deliberations of the Society.

Dr. Thompson, on behalf of the Physicians of Louisville, invited the Society to partake of a festal supper at the Louisville Hotel, on to-morrow night.

The Society, on motion, proceeded to ballot for officers. A number of gentlemen were put in nomination, and after several ballottings, Dr. Chipley, of Lexington, was elected President.

Dr. Peters moved that a Committee consisting of one member from each county represented, and one from the City of Louisville, be appointed to nominate the candidates to fill the remaining offices, which was adopted.

Dr. Gross moved that the reports of Standing Committees be made in the order in which they are reported in the proceedings of the first annual meeting.

The following committees failed to make their annual reports, viz:

The Committee on Arrangements, the Committee on Practical Medicine, the Committee on Improvements in Pharmacy, and the Committee on Public Hygiene.

Dr. Evans, Chairman of the Committee on Ethics, read his report, which was received and referred to the Committee on Publication.

The Society then adjourned to 3 o'clock P. M.

EVENING SESSION.

The Society met according to adjournment and was called to order by the President.

The Nominating Committee made the following report:

They nominate the following gentlemen to fill the offices attached to their names. For Senior-Vice-President, Dr. E. C. Drane, of New Castle; for Junior-Vice-President, Dr. A. Evans, of Covington; for Recording Secretary, Dr. Snead, of Frankfort; for Corresponding Secretary, Dr. Breckenridge, of Louisville; for Librarian, Dr. B. Monroe, of Frankfort; on Publications, Drs. Bell, Ronald and Foree of Louisville; the report was received and Committee discharged.

The Society then proceeded to ballot for Senior-Vice-President. Dr. Drane having received a majority of all the votes cast, was declared duly elected; Dr. Knight was elected Junior-Vice-President; Dr. Snead Recording Secretary; Dr. Breckenridge Corresponding Secretary; B. Monroe, Librarian; and Drs. Bell, Foree and Ronald, the Publication Committee.

Dr. Miller, the Chairman of the Committee on Obstetrics, then read his annual report, which was received and referred to the Committee on Publication.

Dr. Sutton, Chairman of the Committee on Registration, read his annual report, which was received and referred to the Committee on Publication.

The Society then adjourned to half-past seven, P. M.

7½ o'clock P. M.

The Society met according to adjournment, after being called to order by the President, proceeded to the election of members.

Dr. Wible offered the following preamble and resolution which was adopted:

WHEREAS, Physicians are frequently called on to give evidence in Courts of justice, to make post-mortem examinations, and institute investigations in cases of poisoning, services of a strictly professional character, requiring expense, time and labour on the part of the physician; and, whereas, these services are often of great importance to the welfare of society, and as physicians ought not to be expected to perform these without remuneration, it is the opinion of the Kentucky State Medical Society, that the interests of humanity demand that laws be enacted which will properly secure these services when required by coroners, and other officers of the law. Therefore, it is resolved that a committee of three be appointed to prepare a report to be read at the next annual meeting of this Society, on the subject presented in the foregoing preamble.

Dr. Darby, Chairman of the Committee on Epidemics, read the annual report, which was received and properly referred.

The Society, by a vote, decided upon Lexington as the place for holding the next annual meeting. The Society then adjourned till to-morrow morning at 10 o'clock.

THIRD DAY'S PROCEEDINGS.

The Society met at 10 o'clock A. M., and was called to order by the President.

Dr. Gross's resolutions, offered yesterday, were brought up and adopted.

A set of by-laws was adopted.

Dr. Gross, Chairman on Improvements in Surgery, made his annual report, which was received and referred to the Committee on Publication.

Dr. Spillman, Chairman of the Committee on Improvements in Pharmacy, also reported which report was referred to the same Committee.

Dr. Spillman, in conection with the above report, offered the following resolutions, which were adopted:

RESOLVED, That this Society regard the cultivation of our own botany as essential to a full development of our professional resources, and to a more successful practice of our art.

RESOLVED, That the profession throughout the State, and the members of this Society particularly, be requested to give special attention to this subject, and, by cultivating the field of observation and research, in connection with the unexplored regions of vegetable nature within our own limits, ascertain to what extent the demand of the healing art can be supplied at home.

RESOLVED, That any physician discovering a new remedy, or a new property in one already known, or any information touching the medical botany of our State, that can be rendered practically available, be requested to communicate such information to the Chairman of the Committee on Indigenous Botany.

RESOLVED, That the Committee on Publication, at as early a date as practicable, by a brief circular or otherwise, communicate the objects embraced in these resolutions to the profession throughout the State, giving the name and location of the Chairman of the Committee on Indigenous Botany, and earnestly requesting contributions.

The President announced the following Standing Committees:

Committee on Arrangements, Dr. Darby, of Lexington.

Committee on Practical Medicine, Dr. Foree, of Louisville.

Committee on Pharmacy, Dr. Siliman, of Louisville.

Committee on Vital Statistics, Dr. Sutton, of Georgetown.

Committee on Obstetrics, Dr. Powell, of Louisville.

Committee on Medical Ethics, Dr. Hewett, of Louisville.

Committee on Public Hygiene, Dr. Bell, of Louisville.

Committee on Epidemics, Dr. Bullitt, of Louisville.

Committee on Surgery, Dr. Flint, of Louisville.

Committee on Indigenous Botany, Dr. Emmett, of Pike County.

Committee on Finance, Dr. Letcher, of Jessamine county, and also the following special committees:

1. On Medical Biography, or the lives of meritorious or distinguished physicians and surgeons of Kentucky, Dr. Breckinridge, of Louisville.

2. On Medical Literature, or the History of the Medical Authorship of Kentucky, Prof. L. P. Yandell, of Louisville.

3. On the relation between diseases and particular Geological Formations, Dr. Peter, of Lexington.

4. On the Statistics of Hernia, Dr. S. B. Richardson, of Louisville.

5. On the Statistics of Lithotomy and Calculous Diseases, Dr. Gross, of Louisville.

6. On the History and Mode of Management of Hospitals, Dr. Raphael, of Louisville; do. of Penitentiaries and Prisons, Dr. W. C. Snead, of Frankfort.

7. On Suits for Mal-Practice, Dr. Spillman, of Harrodsburg.

8. On the Results of Surgical Operations in Malignant Diseases, Dr. Colescott, of Louisville.

9. On Epidemic Erysipelas, Dr. Owens, of Henry County.

10. On Epidemic Dysentery, Dr. Fry, of Louisville.

12. On Placenta Previa, Dr. Miller, of Louisville.

13. On the Statistics of Remedies in Disease, Dr. Louis Rogers, of Louisville.

Dr. Sutton offered the following resolution, which was adopted, and the same, with Dr. Wibel's resolution of yesterday, were referred to a special committee, Dr. Wibel, Chairman, with the privilege of adding such other members as he may wish:

RESOLVED, That a committee be appointed to consider whether any, and if any, what measures can be brought into requisition to lessen the heavy burthern of pauper practice, and report at the next annual meeting of this Society.

Dr. Thompson, Chairman of Committee on Finance, presented a report.

Dr. Bell, Chairman of Committee on Case-Book, made a report, which was received and referred to the Committee on Publication.

The Society elected the following gentlemen as delegates to the National Medical Society.

Dr. W. S. Chipley, of Lexington; Dr. Freeman, of Oldham County; Dr. W. C. Snead, of Frankfort; Dr. B. J. Raphael, of Louisville; Dr. T. S. Bell, of Louisville; Dr. Gore, of Bloomfield; Dr. Breckenridge, of Louisville; Dr. T. J. Moore, of Harrodsburg; Dr. Wibel, of Louisville; Dr. John Hardin, of Louisville, and Dr. Hewett, of Louisville.

The Society then went into the election of Honorary Members, when the following gentlemen were unanimously elected: Dr. D. Drake, of Cincinnati; Dr. Deadrick, of Tennessee, and Dr. Elisha Bartlett, of New York.

On motion of Dr. Jacobs, the following resolution was unanimously adopted:

RESOLVED, That the thanks of this Society be tendered the officers for the faithful, able and impartial manner in which they have discharged their respective duties, and then the Society adjourned.

W. S. CHIPLEY, President.
W. C. SNEAD, *Rec. Secretary.*

The above is a true copy of an article published in the number of "The Medical News and Library," January, 1853. S. G. FULTON

OFFICIAL MINUTES OF THE HOUSE OF DELEGATES

Of the Sixty-Second Annual Session of the Kentucky State Medical Association, Held at Louisville, October 28, 29, 30 and 31, 1912

OCTOBER 28—FIRST SESSION.

The House of Delegates convened in the Assembly Hall of the Jefferson County Medical Society, the Atherton Building, and was called to order at 2:50 P. M. by the President, Dr. J. G. Carpenter, Stanford.

THE PRESIDENT: The first thing in order, gentlemen, is the report of the Committee on Credentials.

E. L. Bushby presented the following report from the Committee on Credentials:

We report the attached list of delegates which has been revised by the secretary. We recognize his endorsement as sufficient evidence that each is a proper representative of his county society. We hereby call for the credentials of any additions or supposed changes in this list. These we shall be glad to report from time to time to the House of Delegates.

The Secretary called the roll and announced a quorum present.

THE PRESIDENT: The next order is the reading of the Minutes of the 1911 session.

THE SECRETARY: As these minutes were published in the JOURNAL in the Fall of 1911, and the reading of them would consume considerable time of the House of Delegates, I would like to move, Mr. President, that the reading of them be dispensed with.

E. L. BUSBY: I second the motion. Carried.

THE PRESIDENT: We will now listen to the report of the Committee on Program, D. O. Hancock, Chairman.

D. O. HANCOCK: We desire to report as follows: We adopted the natural divisions of our work and appointed a sub-committee for each section of the work, as follows:

Surgery, George A. Hendon, Chairman; Diseases of Children, W. F. Boggess, Chairman; Pharmacology and Therapeutics, W. W. Anderson, Chairman; Practice of Medicine, B. F. Zimmerman, Chairman; Nervous and Mental Diseases, George P. Sprague, Chairman; Preventive Medicine, W. L. Heizer, Chairman; Obstetrics and Diseases of Women, J. T. Reddick, Chairman.

We also adopted a scheme of work and submitted it to these sub-committees. This scheme of work and program of these committees were published in the September issue of the JOURNAL. From these the Committee on Scientific Work compiled the program of the annual meeting which is herewith submitted.

We have endeavored to be democratic in the distribution of the work and, at the same time, bring to you the best available talent, all of which we are glad to report.

(Signed)

D. O. HANCOCK, Chairman,
W. A. POOLE,
A. T. MCCORMACK.

THE PRESIDENT: You have heard the report of the Committee on Program. What will you do with it?

It was moved and seconded that the report be adopted. Carried.

THE PRESIDENT: We will now listen to a report from the Committee of Arrangements, Dr. Edward Speidel, Chairman.

EDWARD SPEIDEL: Mr. President and Members of the House of Delegates: I wish to say that the Jefferson County Medical Society through its spokesman, J. M. Mathews, will extend a formal greeting to this Association tomorrow morning. We assure you that the entire membership of the Jefferson County Medical Society is deeply interested in this meeting, and we shall make every effort to make it one of the most successful meetings in the history of the Association.

Your Committee of Arrangements, consisting of a president, secretary and treasurer, consider themselves extremely fortunate in having secured the First Christian Church property for the use of this meeting. I think you will all agree with me, when you see it, that it is one of the finest edifices for the purpose in which we have ever held a meeting. The large auditorium will be used for the meeting on Tuesday night. On that occasion we will have the address of Dr. John A. Witherspoon, of Nashville, and to add special attractiveness to that meeting, upon consultation with the State Secretary, the Committee of Arrangements has engaged the organist of the church to give you a classical organ program, lasting from 7:30 P. M. to 8:30 P. M., preceding the address of Dr. Witherspoon, consequently we would urge all delegates and their ladies to bring as many to the church as possible and to be there at 7:30 sharp. It is one of the most magnificent organs in the city. The auditorium is one of the handsomest for a general meeting that can be found in this or any other city. It is a magnificent structure and the acoustics of it are perfect, so that I am sure that in addition to the magnificent address we will hear tomorrow night from Dr. Witherspoon, we will be entertained by a high class musical program.

The General Meetings of the Association will be held in the Sunday-school room which accommodates three hundred people, and with the rooms adjoining it, which can be opened, there will be room for several hundred more. The seating capacity of the room can be enlarged continually according to the attendance we have at the meeting. This room is especially adapted for lantern slide demonstrations, and as the seats are arranged in such a way that the speakers are close to the audience, there will be no difficulty in hearing the speakers. Another advantage of the room is that it is far back from the street and there will be no interference on account of the heavy Fourth Street cars.

Upon consultation with the State Secretary we have considered it advisable to have the entrance to the room through the basement of the church.

The scientific and commercial exhibit of the Association is installed in the large entertainment room in the basement of the church, a very large and well lighted room, which is splendidly adapted for this purpose. The Registration Department is in this room also, and entrance can be had through the upstairs hall to the room. Every member of the Association will be reminded of his duty to register the moment he enters the hall.

The Committee on Entertainment, with Dr. Frank as Chairman, has made very elaborate attempts to entertain the guests we expect to have. A sub-committee, of which Dr. McMurtry is Chairman, has arranged for an elaborate banquet to be given at the Seelbach Hotel, on Wednesday night at 7 o'clock. This banquet will take place on the ground floor in the large dining room of that hotel, and visiting physicians will find cards of invitation in an envelope that is handed to them on registration. Special effort has been made to provide for the comfort and the entertainment of our guests of honor, and we believe there will be no hitch in the arrangements whatever. Cards of admission to the banquet will be provided and these will be numbered. A special Registration Committee will exchange these cards on Wednesday morning from 11 to 1 o'clock, and on Wednesday afternoon from 4 to 5 o'clock for the invitations that we find in our envelopes. Such cards bear the number of the seat and table at which the visiting member is assigned. It is intended that four guests shall sit at a table and four visitors. We do not want any cliques, and we expect the members of the Jefferson County Medical Society to see that nobody is neglected. An elaborate menu has been ordered by the committee who has this matter in charge; we expect to have a fine orchestra to furnish music, and the banquet will be followed by toasts from the visiting honorary members that will be present on this occasion. The talking will be done by the distinguished visitors we intend to have with us.

A Ladies' Entertainment Committee has been organized with Mrs. H. H. Grant as Chairman. This Ladies' Committee will meet the visiting ladies in the Henry Watterson Hotel at 12 o'clock on Wednesday afternoon, and will entertain them with a motor ride to the Country Club where a luncheon will be served. In addition to this, the entire Jefferson County membership of 235 has been organized into a Reception Committee, and every member of the Jefferson County Medical Society will wear a badge, and I hope our visitors will not fail to button-hole any man who wears a badge of this kind. As I said, it is our desire to make this one of the most memorable meetings of the State Association, and if you do not have a good time it is not our fault. (Applause).

THE PRESIDENT: The next item of business is reports of officers. I will ask that the President's report be postponed temporarily.

A motion to this effect was made and carried.

THE PRESIDENT: The next thing is the Secretary's report.

THE SECRETARY: The Secretary's report has been published on page 780 of the October number of the JOURNAL. (See report.) I will call your attention to two or three items in which you are particularly interested as practical matters, especially to the increase of the annual per capita assessment from $2.50 to $3.00 as proposed by the Medico-Legal Committee.

THE PRESIDENT: You have listened to the report of the Secretary. What disposition do you wish to make of it?

On motion, the report was referred to the Committee on Reports of Officers.

THE PRESIDENT: We will now have the report of the Treasurer.

The report was presented by Dr. W. B. McClure, the Treasurer, and it was referred to the Committee on Reports of Officers.

THE PRESIDENT: The next thing in order is the report of the Council, as published in full in the October, 1912, issue of the JOURNAL.

In the absence of Dr. Rau, Chairman, the report was read by the Secretary, attention being called to many items in the list of expenditures printed in the October JOURNAL.

The report was referred to the Committee on Reports of Officers without motion.

THE PRESIDENT: You will now listen to Reports of Councilors by District.

W. W. RICHMOND: I would like to ask that you pass the report from the First District until the next session. I have a report, but it has been left in my room, and I do not remember its exact contents. (Report passed temporarily).

W. B. McCLURE: Before the Reports of Councilors are taken up, there is one question that has occurred to me. I noted it when I read the report, namely, if it is possible for the secretary to give the medico-legal expense. I wonder if he is able to tell the House how much money we took in on account of the increase in dues, and whether that was fully consumed in the expenses or whether we made something over.

THE SECRETARY: This year there is about $6.45 balance on hand the first of October. We have pending three times as many cases as we have had heretofore and the expenses of the coming year will be more than doubled. The work has been successful.

THE PRESIDENT: We will now listen to the Reports of Councilors by District.

C. Z. AUD: I move that he Reports of Councilors be handed in and considered as read and printed in the proceedings.

Motion seconded and carried.

C. Z. AUD: I wish to say, that throughout the State the councilor's work has been generally so well done, that if the Council would report each councilor district being in a normal condition, they would about state the condition of the entire State. The councilors's work is no longer so exacting as it has been. Most of the work is done at Bowling Green and is done well. I fail to see the necessity of sending councilors out into the counties where the medical profession is carrying the work on. Of course, the work of a councilor becomes very exacting at times; but the profession in Kentucky is at peace with one another. They are rapidly establishing peace between themselves and the various associations and the various isms in medicine. I find in my councilor work that the prejudice between the various branches of the profession is rapidly disappearing, and I want to say to you that in my opinion our combined State Board is doing very much to eliminate this prejudice, and as councilor I want to say now that in my opinion the time has come for us to send out the dove with the olive branch and make one united profession. We of the State Board find that the members of these various isms are generally like ourselves or like we think we are, and the time has come when the profession may be divided into a dozen specialties. If a man sees fit to select electricity as his branch, he is called a specialist. If a fellow sees fit to give a small dose of regular medicine, he is a specialist. (Laughter). Is there any other reason why these other men should not do these things? I say to you as a councilor, I want you to begin now and cease this bickering among the various branches of medicine. When I entered the profession (I am not going to say how long ago, but long enough to have spent many hours in the sick room listening to the views of other men) I found that they knew the causes of disease as well as I did. There is no reason why there should be a regular surgeon, a homeopathic surgeon, and an osteopathic surgeon. We must invite these men to come into the regular profession and enjoy the fruits of the learning of our forefathers. In my councilor district I want to say the members of the profession are at peace with one another, and they are at peace with all the various isms and specialties in medicine.

REPORT OF THE TENTH COUNCILOR DISTRICT.

I. A. SHIRLEY: The Tenth Councilor District, true to every onward and upward principle of organization, has as her unfailing custom added about a score of names to her numbers of last year. This is according to the official scorer when the facts are that we have about double this, but some were inadvertently overlooked and some reached the secretary too late to be counted. But all the same we remain at the head of the list where we rightly belong, both on account of preemption of position for all those years and on account of actual progressiveness in matters medical. We regret exceedingly that a few counties have fallen by the wayside in numbers, reduced and some others by having dropped off the list entirely. It is only to take a much needed rest, however, and we predict that they will arise to newness of life and increased effort and will shine in the future with increased radiance and usefulness. A peculiar thing has happened this year in the experience of the Tenth District, namely, the gain has been principally from the Blue Grass counties whereas heretofore, it has been from the mountain counties. We feel that this was only accident, and that the mountaineers will arise with a determination to again take their place in the front rank of both aggressiveness and progressiveness. Your councilor has spent considerable time this year in looking for hookworm and only worked the councilorship as a side-line, so you can see the truth of what I have often told you before that it is not on account of any merit of the councilor, but purely and simply on account of the inert goodness and work of the physicians from the district that so much has been accomplished all these long years. A live, active and aggressive secretary is a positive necessity in the work of the county society. It is indeed strange that so many good men, men who really seem to have the good of the medical society at heart, will wait for the secretary, a man who does not get a cent for his work to call on and oftentimes importune them to renew their allegiance to the society; but such is the case, and if the above official ceases to importune and go after them he falls down in his work, and none other than a determined secretary will ever succeed. In some counties with which I am acquainted, and who should be ashamed of themselves, practically no meetings have been held during the year; they pay their dues, but at the time for the meeting, unless there is something special on hand, like something to eat, and sometimes not then, they have a call; it may be a patient, and it may be a game of "forty-two" or five-hundred, but never a prayer meeting; they frame an excuse to stay away. If every fellow would only feel it incumbent on himself to be there as if he was the only one, and without whose presence the meeting must be a failure, then we would turn many meetings that go down in history as failures into successes. May this be the story of this entire medical association for the coming year is our fervent wish.

REPORT OF COUNCILOR FOR SEVENTH DISTRICT.

L. F. HAMMONDS: I beg leave to offer the following report: I have not visited the societies very much, as I intended to visit every society during the Fall, but was prevented on account of sickness of myself, but most of my counties are doing some good work, but they could do better.

Casey county has nine members, and five non-members. Dr. John Hughes has died since my last report. This leaves us fourteen doctors in the county. Most of them do not take any interest in society work. Clinton has eight doctors and six are members of the society, and are doing some very good work. Most of them live in Albany and they should have no trouble in meeting.

Garrard has a very good society and has eleven members, and only one non-member. Dr. J. B. Kinnaird, the secretary, is certainly the right man in the right place, and to him is due the large membership.

Lincoln has twenty members and five non-members. They are doing some good work, but what society could not do good work if it heard a sermon from the eloquent Carpenter at every meeting.

Pulaski has twenty-three members, and eleven non-members. She is doing good work. She also has a study club which meets regularly, and this is what every county should have. Dr. Cain is a splendid secretary and will not let the society drag.

Rockcastle has eleven members, and three non-members, and one of them is not eligible, which only leaves two out in the cold. It has a good secretary and is doing good work.

Russell has six members and eight non-members. They are cold and seldom meet, but I hope they will see the error of their way and soon go to work.

Wayne has seven members and eight non-members. I have not had a report from Wayne for some reason. The secretary did not answer my letter. We have in the district a total of 137 doctors, 93 are members of the society, 36 non-members that are eligible and are still out in the cold, exposed to the winter's snow. Eight are not eligible and are not permitted to come into the parlor.

I hope to be able to make a better report next year as we have some bridges, and the streams that are not bridged are fordable sometime during the year.

THE PRESIDENT: The next order is the Reports of Delegates by counties.

THE SECRETARY: I would move that any county that is called and passed shall have its report printed in due form.

Motion seconded and carried.

BULLITT COUNTY MEDICAL SOCIETY.

SAMUEL W. BATES: I have the honor of submitting the following report of conditions in Bullitt county for the current year:

The membership in the county society remains practically the same as in the past two years. It seems almost impossible to get these non-members into the society, due perhaps, in a great measure, to the utter indifference of those of us who are members. Our county society is really a society in name only, having had only one or two meetings in the past year and these were very poorly attended. Some three or four of our doctors make sporadic efforts to revive the society but without results so far. We are trying to get as many of the doctors as possible to attend the State meeting this year in the hope that some enthusiasm may be aroused and enable us to make a better showing in the future.

BARREN COUNTY MEDICAL SOCIETY.

J. C. McCREARY: Number of physicians in the county January 1st, 1912, 31; number of new members enrolled during the year, 3; total, 34. Died during the year, 2; transferred membership, 2; suspended for non-payment of dues, 1; non-members, 8; total, 13. Present paid up membership, 21. Ten regular meetings wrere held, but no meetings in February and March owing to bad roads. The highest number in attendance at any one meeting was 14, average attendance being 11. There were four clinical meetings held, at which great interest was manifested in the discussions of cases, and it was profitable to all interested. A number of papers have been read and discussed, and the members seemed to manifest more interest in the work than formerly.

Our annual social meeting was held in July and was evidently promotive of a friendlier feeling among our members. A public clinic was conducted in the afternoon by Dr. H. N. Leavell, of Louisville, followed in the evening by a popular lecture delivered in the courthouse by Dr. W. F. Boggess, of Louisville. The plan of holding clinics and giving a public lecture seems to be gaining in favor and tends to raise our profession in public esteem.

We are sorry to report that the business side shows no improvement, and work among non-members is not what it should be, otherwise we are on decidedly rising ground as a medical society.

Our members and the public in general seem to favor and appreciate the vital statistics law which has been in effect during the past and present year.

BELL COUNTY MEDICAL SOCIETY.

O. P. NUCKOLS: The Bell County Medical Society begs to submit the following report for the year 1912. The society has up to the time of this report completed one of the most successful years within its history. Beginning in January with about five regular physicians in the county as non-members, it has had a regular meeting every month, and has gathered into the fold every eligible physician in the county, and its records show an average attendance of 15 member sat each meeting.

One of our most talented and respected members has been claimed by death during the year in the person of Dr. McCauly Arthur.

The scientific part of the programs of our society meetings has been very gratifying and of high order of work. We have had some very excellent papers during the year on live subjects, and the discussions have been both interesting and helpful. Another important part of the work of our society has been its clinical cases. During the year there has been a number of interesting clinical cases presented before the society, and the society has encouraged this method of presenting the interesting features of the various subjects wherever practicable.

The society has during the year adopted a schedule of fees governing the municipal and county practice, and at present has a committee at work preparing the general schedule of minimum fees as a guide to those who want to maintain proper charges, and as a restraint to those who would be inclined to cut the fees. All these things are done to bring about a more general understanding and to encourage harmony.

Believing as we do that there is strength in good fellowship and good comradship, we have not overlooked the social side in our meetings. At almost every meeting there has been someone of the members of the society, or someone of the tactful and obliging druggists, who has been on hand with some form of refreshments, cigars, etc.

On the evening of October 18th, the society turned out *en masse* to enjoy the regular annual entertainment that has been a custom with the Bell County Medical Society. The committee had arranged a splendid program for all, consisting of music, dancing, and a buffet lunch, at Middlesboro Hotel, in Middlesboro, Kentucky. This has become one of the regular annual features of our society and is looked forward to with much pleasure and always thoroughly enjoyed by all present.

For professional courtesy and professional ability, the Bell County Medical Society prides itself, and as it is nestled away in the mountains of eastern Kentucky, this society moves in harmony and good feeling, keeping thoroughly abreast of medical advance; it moves slowly but surely toward the goal of the highest medical attainment.

To the House of Delegates this report is most respectfully submitted for the work of the year 1912.

I would like to add to the report one feature I did not include. We have been carrying on some investigations in our county. The Commission and the State Board of Health have defrayed the expenses of the work, with the exception of the microscopist, and in order to get the State Board of Health and the institute in our county interested, the County Commissioner granted the necessary appropriation for six weeks campaign in our county and the results of the investigation were very gratifying.

THE SECRETARY: The work of the organized profession in Bell county the past year marks an epoch in organized medicine. To my mind Dr. Nuckols has been too modest in his claims for his own county, and in order to give you an idea, an adequate idea, what this means and what the work meant and what it amounts to, I would like to read the report of the inspector sent out by the Rockefeller Commission, who reports on the work of the commission in Bell county.

This report is as follows:

"I have just returned from a journey afield in Kentucky. A few things which I have observed here may be of interest to you.

"1. One purpose of this journey was to observe the work of the centrifuge in the field. At the dispensaries in Bell county I found the microscopist using a small portable centrifuge which carries but two specimens at a time. A portable instrument that would carry four to six specimens would save much time. Dr. McCormack is going to get this larger type.

The specimens are brought in the small vial container with which you are familiar. Part of the specimen is taken out, if necessary, leaving the vial about one-third to one-half full; water is poured in and the whole thoroughly stirred with a match stick. The contents of the vial are then poured into small funnel lined with a double layer of gauze; the specimen is thus stained as it passes through into a small glass tube about 5 inches in length and about the size of a pipe stem. This tube is open at both ends and stopped with corks. This tube is run through the centrifuge. The upper cork is removed, the supernatant fluid poured off, the lower cork to which the eggs have adhered, is taken out and used for making the smear on the slide.

The specimens are thus prepared by a helper; the tubes after being centrifuged are passed on to the microscopist. Without her knowing it, I timed Miss James through a series of examinations and found that her average for the series was 1 1-2 minutes to a slide. At Pineville on October 7 she examined 160 specimens. She examined two slides for each negative specimen. The infection for 160 specimens was something about 50%. Miss Sigmier in Edmonson county examined something over 270 specimens in one day. Where the infection runs above 50%, one microscopist with the specimens thus prepared can examine 200 specimens a day. And in addition to this gain in speed, a careful test in the Kentucky State Laboratory indicates that the results by this method are more accurate.

"2. I had opportunity to observe the results of Dr. Lock's method of treatment of which I wrote in my last letter from Kentucky. At Pineville on October 5 I examined with the microscope a number of specimens submitted by persons who had had one treatment two weeks before. Of 44 such specimens examined on that day, 36 were negative. Dr. Lock gives a second treatment only on the basis of a second microscopic diagnosis made two weeks after the first treatment. This experience thus far shows an average of about 90% of cures from one treatment. Of 788 specimens examined two weeks after one treatment, 733 have been found negative, showing apparent cure. Dr. Richmond used the same method of treatment in Edmonson county. He examined 336 specimens two weeks after first treatment and found 335 of these negative. I am enclosing copy of printed directions.

"3. It would be difficult to overestimate the value of a good dispensary exhibit. I was convinced of the effectiveness of such exhibit in the early days of the dispensary when I saw Dr. Perdue's exhibit at Floralla, Alabama. The striking features of Dr. Lock's exhibit are his local pictures, people who have been cured, bottles of intestinal parasites, kookworm eggs and live larvae under the microscope. At each dispensary I saw persons who had been cured telling their experience to others. At Pineville, for example, Mr. Frank Isaacs spent the whole day at the dispensary working as earnestly and as effectually as did Dr. Lock. He had been cured, had had 7 members of his family treated, had got 8 of his near relatives and 12 other neighbors treated. He returned to the dispensary and gave the day of his time to telling to others the story of his experience. He brought bottles of hookworms which had been expelled from members of his family; he brought his son, Rosco, to show what had been done for him. Rosco was 14 years old, and on the day of his treatment, just 4 weeks before, he weighed 41 pounds. On the day on which I saw him at the Pineville dispensary he weighed 72 pounds, having gained 21 pounds in four weeks.

"No exhibit is more effective, especially with the indifferent or skeptically inclined, than the sight of the live larvae under the microscope. Dr. Lock keeps an extra microscope at the dispensary for this purpose. I studied the effect of this exhibit at every dispensary and am convinced that it pays a hundred fold for the care. One person after seeing these active larvae would go out and bring in friends. Persons coming through curiosity, after seeing the exhibit, would call for specimen containers for the whole family. The man at Pineville who looked into the microscope and exclaimed: "Well, I'll be durned" expressed an intensity of conviction that seemed to me to be the universal effect of seeing this exhibit. One old man at Pineville had stood off all day in skeptical mood, and yet he did not leave. Late in the afternoon he looked at this exhibit of live larvae; then went to Dr. Lock, and pointing to the box of speciment containers, said: 'Say, Dock, I want ten of them 'ar.'

"4. Nothing impressed me more on this journey through Bell county than the earnest and effective cooperation of the physicians. I was informed that there are about forty-two physicians in the county; that they have an active county medical society; that all are members of the organization; that all are active in treating hookworm diseases. Dr. J. H. Hendren, of Cary, for example, told me he had treated more than 100 cases. He takes containers with him wherever he goes; collects specimens and sends them to the State Laboratory; keeps after his people aggressively till he gets them treated. He and Dr. Hastings got one of the dispensaries located at Cary; put up a fly tent for its accommodation; entertained Dr. Lock and his microscopist, got their people in to the dispensary and had altogether more than 700 examinations made in this community. Dr. Hastings has treated more than 100 cases; Dr. Steele, at Corbin, told me he had treated more than 150; and I was told of one physician whom I did not meet, who has treated more than 400 cases. Dr. J. G. Foley and the Pineville physicians were active in the dispensary at that point. Dr. Foley entertained us at his home in the evening. At the Middlesboro dispensary I met ten physicians who were active all day gettin their people in and getting them examined. One of these brought 40 specimens at one time: another gave two hours of his time at the microscope exhibiting the live larvae to all persons he could bring in; three others were especially active in getting influential citizens entlisted.

"I came away with the conviction that these 42 physicians will cure or get cured practically all cases of hookworm disease that the dispensaries have left in that county.

"5. Equally gratifying was the cooperation which I observed on the part of all classes of citizens. The Pineville dispensary was conducted at the court-house; Circuit Court was in session; Judge Davis suspended proceedings for an hour and asked Dr. Lock to speak to the hall full of people present, including bar, jurors and witnesses, and exhibit Rosco Isaacs, the boy who gained 21 pounds in four weeks. At the dispensaries I met physicians, ministers, school men, lawyers, business men, farmers, miners. All classes of people—whole families together—were being examined regardless of clinical symptoms. I was especially interested in this because it shows that the people are coming to understand that all people living in this territory are liable to become infected; that to harbor the parasite however light the infection is to suffer some degree of personal handicap and to be a public menace. Word has just come to me that the County Judge of Breathitt county is going to accompany Dr. Shirley on a circuit of that county opening the dispensaries.

"At Cary I met with one of the most striking examples of sanitary improvement that I have seen. The following facts I have from Mr. W. L. Moss, vice president and general manager of the Continental Coal Corporation:

"*Condition of the Camps.* In June, 1911, there were in the company's camps about 150 cases of typhoid; cases of bowel complaint were numerous; hookworm infection ran about 65 per cent. Soil pollution was practically universal; the wells and springs were contaminated; flies had free range.

"*What Was Done.* Dr. McCormack, Dr. Lock and Dr. Hendren, the camp physician, urged reform. Mr. Moss secured from his board of directors an appropriation of $25,000 for sanitary improvement; all open wells and springs were filled up; deep wells from 80 to 90 feet deep were bored, protected, supplied with pumps; 400 new sanitary closets were built and hundreds of old closets were made over.

"*Results.* During the summer of 1912 and up to the time of my visit there had not been a case of typhoid in the camps; cases of diarrhoea were reduced to about half; the cases of hookworm disease have been treated. From June, 1910, to June , 1911, the force of about 1800 men on the company's pay roll put on cars about 600,000 tons of coal; from June, 1911, to June, 1912, the same force put on the cars a fraction over 800,000 tons of coal. Mr. Moss stated with emphasis that merely as an economic proposition this $25,000 is the best investment the company has made."

DAVIESS COUNTY MEDICAL SOCIETY.

J. J. RODMAN: Number of members last reported 71 Of those 5 have lapsed, three of whom have moved from the county. To compensate for this loss we have taken in 4 new members, making 70 in good standing to-day. There are 11 other physicians in the county not counting 1 homeopath, 3 osteopaths, and 5 colored brethren. Of these 11, some are superanuated and others do very little work.

We meet quarterly. The county is large and those living at a distance do not care to have the meetings oftener. For the others we have a city society that meets twice monthly. We have three or four original papers read and discussed at each meeting, also a report of interesting cases. The members take great interest in the meetings. The average attendance for the year was 30 1-2 including one meeting that was held at the extreme end of the county and was not well attended.

We have a dinner for the society twice a year, which is quite a social feature.

C. H. TODD: I wish to add a word as a supplement to Dr. Rodman's report, and it is this: There are no factions to-day among the medical profession of Owensboro and Daviess County, and having practiced medicine in Owensboro for the past forty-seven years, this harmony is most pleasing to me, and for which we should all be proud.

J. W. ELLIS: I am glad to be able to corroberate the report of Dr. Rodman, and to say that the profession of Daviess County is quite harmonious, working together on all occasions harmoniously. There are no feuds nor factions in the profession. It is satisfactory to live and practice medicine in a county like that. That is as it should be, because we are working together for a common purpose and in a common cause, and surely we ought to stand by each other in our trials and tribulations. We have our disappointments and failures to be sure, or there would be no successes. We have accomplished a great deal during the past year. We have quarterly meetings that are well attended, and everyone seems to realize the importance of attending these meetings and keeping abreast of the times. We have preventive medicine. When I went to the place where I now live, forty years ago, there was not a day in the 365 days in the year that I did not have someone under treatment for typhoid fever. To-day I have not a case. I have had but two cases this year, and I wish to thank Dr. A. T. McCormack for sending me one of these cases from his town. Dr. McCormack invited me to assist in cleaning up typhoid fever in his town. He has had lots of it over there. We have had some cases of diphtheria in our county this year and ordinary sore throat or follicular tonsillitis. Everyone in my community who has sore throat thinks he has diphtheria. I have not found diphtheria in young patients. I have found it in some adult cases, but very few, and I have always been able to succeed in treating it by using diphtheritic antitoxin, and there has been no fatality. Sanitation and hygiene have been taught our people until I have almost put myself out of business.

HENDERSON COUNTY MEDICAL SOCIETY.

W. A. POOLE and E. L. BUSBY: We are glad to report that 1912 has been a banner year for the Henderson County Medical Society. Our enthusiasm was aroused when you again honored us by selecting one of our members as your President, and we wish now to thank you and other members of the Kentucky State Medical Association for this honor. We feel sure you will be as proud of Dr. Hancock after he has served as President as we are after so many years of faithful service to our county society.

It is with considerable pride that we again report every eligible man in the county a member of the society.

Our meetings have been held regularly twice a month, except July and August. Many excellent papers have been read and discussed, some of which have appeared in the KENTUCKY STATE MEDICAL JOURNAL and other medical journals.

Joint meetings have been held with the City and County Boards of Health and with the Anti-Tuberculosis Society. Matters of importance to the public, especially the health legislation, were discussed. At one joint meeting we sent a protest against a bill signed by officers of the respective boards of health, medical and anti-tuberculosis societies, Mayor and our Senator and Representatives, both of whom voted for the passage of the bill; when the merits of this bill were explained to them they gladly signed our protest and telegraphed the Governor urging him to veto the bill.

We have had two special meetings, one to discuss insurance matters, and another when Dr. Hayden, Floyd, and Elrich, of Evansville, furnished us an excellent program. One Sunday ever minister in the city delivered an address on tuberculosis.

The profession has been untiring in its efforts to secure a tuberculosis sanatorium. We have as yet been unsuccessful, but expect in the near future to get not only a tuberculosis sanatorium, but a tuberculosis farm.

We have made an effort to get a new City Hospital, this has been held up on account of the proposed bond issue for the new filter plant.

Our boards of health have been active and we have little trouble on account of diphtheria which threatened to be epidemic over the entire city and county. Especially is our county health officer to be commended for the efficient manner in which he has looked after the health matters in the county.

During the year he has had all school buildings fumigated, water buckets have been replaced with coolers, and every school in the county is now using individual drinking cups.

The County Sanatorium (Poor House) has been fumigated, papered, screened, etc., and the houses and grounds cleaned and rendered tenantable for the unfortunates who have to drag out their miserable existence there.

Six schools have been closed by the health officer to prevent the spread of diphtheria, scarlet fever and smallpox. In every instance the diseases were checked and school work resumed in a short time.

The School Board now sees the importance of hygiene in the schools and works in harmony with the health officer, adopting all measures he suggests. He has written several articles for the local papers on rural hygiene in the school and home, that have been well received and added much to the health and comfort of the citizens.

While we are not yet getting what we should have for public work, we are gradually gaining, and we now get for City Physician, $600; City Health Officer, $600; County Health Officer, $500; County Jail Physician, $300; and County Poor Farm Physician, $250. These small salaries with the special orders from the courts make an aggregate of more than $3000 per year for this kind of work.

The officers of our County Society have been faithful and efficient. We would especially mention our President, Dr. J. W. Cooper, who for half a century has been a leader in our county, not only in the profession but in society and business as well, and is often referred to by those who know him as the "grand old man."

CARTER COUNTY MEDICAL SOCIETY.

D. B. WILCOX: The Carter County Medical Society with its membership of 20 of the most advanced physicians in the county is on a most substantial footing, ready and eager to promote the interest of themselves and the people among whom they practice. They are so situated as to be unhandy as to meeting regularly, but all of a progressive mind for good work. We have tried to be of use when the Legislature was in session. We stand united against empiricism or quackery, and also against whatever may arise to hoodwink our fellow citizens. Diphtheria seems to be epidemic at present in our county, and we are just now busy looking after it.

CAMPBELL-KENTON COUNTY MEDICAL SOCIETY.

W. W. ANDERSON: Our society is not fully represented as yet, but the rest of the delegation will be here this evening and our written report is not ready to present. I would like to say this, however, that the Campbell-Kenton County Society is now ten years old and is still going to school; that the membership has increased 1 in the year. We report 94 as against 93, having gained 4, and lost 2 by non-payment of dues, and 1 by death. The condition of the profession has markedly improved, and this is much more marked, as is to be expected, in the county that has the best organization, namely, Campbell. Ten years ago Campbell county physicians, like physicians everywhere, were losing a certain amount of sleep by reason of night calls, but losing more lying awake at night to dislike each other. They have gotten over that. Kenton County is restless, but is working up. The work in the Campbell-Kenton County Medical Society has so improved the membership, and particularly those who attend regularly, that we are no longer dependent upon our neighbors across the river in Cincinnati for help. (Applause). We have cultivated our own specialties, and our own general practitioners are specializing in certain parts of the practice of medicine to a great extent; that is to say, when they find a case that is a little beyond them, they call someone in their own neighborhood, someone of our membership, who has special skill in that particular line, and get help right among ourselves. We need not go across the river as we did six or seven years ago for surgery or for a specialist. Almost all of that is done now among our own men and better done we believe because we have got men who can respond at once. Our physicians are giving better incomes for our own profession. Conditions are improving in Kenton County, but are not quite so far advanced as in the other. One result of this better organization is a better mutual understanding of the profession and doctors are higher classed men professionally in their professional ethics and their morals. The shyster, the crooked fellow, at least, is distinctly in the background, and not in the society. If we get him in, we straighten him out. We have but one man in Campbell-Kenton County who has been suspected of being an abortionist. We have not been able to prove a case on him. He is not a member of the society. One midwife, who has been notorious for committing abortion, has been called before the grand jury with a good prospect of being indicted. We are progressing and we hope to do better in the future.

CHRISTIAN COUNTY MEDICAL SOCIETY.

W. S. SANDBACH: Our society is in a fairly good active condition, with 35 members. We held 11 meetings, with an average attendance of 18. These meetings have all been interesting, with the exception that a few members failed to respond. We are quite harmonious and are getting more so each year. The prospects for membership this year are bright. I think it will be increased. The members of our society have established an infirmary where we have equipped an excellent operating room, and we are no longer dependent upon the surgeons of Nashville and Evansville, but our own members are doing the greater part of the surgery, and it is only a matter of time when the surgery will be done by the physicians of Christian county. We have in our county only 54 practicing physicians. We have quite a number who have retired, they have become rich. Some have gone into real estate, some into banking. There are 58 practicing physicians. We have 2 homeopaths, 3 osteopaths, and 4 in the Western State Hospital. The Board of Health under the management of Dr. W. E. Lackey, the Secretary, has been doing greater work than ever before. They have established an abattoir at Hopkinsville, where meat has been prepared for the entire city. It also has established a Milk Commission of three members. It has successfully handled an epidemic of smallpox.

FAYETTE COUNTY MEDICAL SOCIETY.

C. A. VANCE: We had a membership of 61, with an increase of 9 members, making it 68, last October. We have also two applications before the Board of Censors which make 69. We have lost one member by death and 2 by non-payment of dues. Everything is running smoothly in Fayette. We have had regular meetings every month. We have four visiting essayists and in a small way we maintain a Milk Commission composed of five members. We have 2 certified dairies in the county. We have about all the eligible members in the county. There are a great many doctors in Fayette and in Lexington, but the doctors in counties do not get very much interested in the society. We have not a single member outside of the city in the county society. We have many doctors in the city who are not eligible for membership according to the existing circumstances. We think Fayette is flourishing.

FRANKLIN COUNTY MEDICAL SOCIETY.

U. V. WILLIAMS: It was very pleasing to me to hear the secretary say what he did in regard to the age of this society, because 7 years ago there was some dispute in a meeting of the main body that was held at that time in the Galt House. In 1853 the preliminary arrangements for organizing this society were made, principally by Samuel D. Gross, of Louisville, and William Snead, of Frankfort. For three or four years the Kentucky State Medical Association was in its incipiency; that during 1855 the primary inauguration from which you date the antiquity of this society began. You call this the Fifty-seventh Annual Meeting. In Frankfort there were Walton, Samuel D. Gross, William Smeade, and some others, seven all together. It so happens that I was a medical student at the time. In 1853-4 I attended medical lectures in Cincinnati at the Eclectic Medical Institute. In 1854-5 I attended a second course and graduated from that institution in 1855. Soon after I came back home this society met. Dr. Snead was a particular friend of my father and had an interest in me. I was present at that time, when I was not a member of this society. He said to me, when you graduate from the Eclectic Medical Institute I want you to proceed further with your medical education and go to Philadelphia. I did. I followed Dr. Samuel D. Gross and graduated from the Jefferson Medical College in 1859. I date my medical career from 1855 at the inauguration of this society, and simply stated at that time I was the only man living except Dr. Walton, who was present with seven members who were in Frankfort at the time, and because I did not state on the floor that I was a graduate from the Eclectic Medical Institute, and it so happened that I was absent from this House of Delegates, I was attacked in my record by a Louisville physician; that I was not a doctor at that time, but only four years after. While I claim to be a regular, I take off my hat to the eclectics like I do to the homeopaths.

So far as Franklin county is concerned, I witnessed the christening of it. I was its first president. I have frequently filled that office. I have been almost continually its secretary. I will say, we have 33 or 34 physicians in Frankfort and Franklin county. Every member of the medical profession in Franklin county, except colored doctors, are members or have been. We have only seventy-two that are active members of the society now. Why? Because of non-payment of dues. I have sent out notices to them, but very little attention has been paid to them. I do not want to submit a written report of our county society until I go back home and tell what I have said here. There will be a social meeting next week when we will have a larger attendance.

One great trouble in Franklin county with the profession is that there are a great many beneficiary societies, some five or six or seven. I do not know how many there are in Franklin that employ a physician at so much per member per year for their whole family. If a man is married and has a family, you may reasonably suppose that with his children he has a family of seven or eight. These societies pay him from four to six dollars per year, and there are plenty of doctors who will undertake to do the work for that price. There are regular insurance companies, and one of them that has been mentioned is the New York. I was examiner for that company; when they reduced the rate from $5 to $3 I passed out and another doctor took my place. Later in Franklin county there was inaugurated another benevolent society that claims to have 435 members and this society pays the doctors $2 a year, payable fifty cents quarterly. That includes practice for the whole family. There are three doctors in the county who have made application for that position. There is disaffection in our county and a considerable amount of bad feeling, and a want of professional decorum in our meetings. Bad feeling is engendered by that condition and that system of domiciliary practice or beneficiary practice. We have 15,000 population in Frankfort, with as many probably as 20,000 in the whole county. We have 36 doctors. We have 6 or 8 beneficiary societies, and counting them all up it would occupy at least the practice of one-third of the population that is being done, and consequently a great deal of disaffection and jealousy and bad feeling has been engendered.

So far as the personal aspect of our county is concerned, we are harmonious. We have 2 homeopaths in the county, 1 a member of the State Board of Health, and 1 an ex-member, who resigned to accept a position on the Tuberculosis Commission. When we have a social session we invite the osteopaths and homeopaths and all other kinds of paths to come in with us and have a good time socially. We have two homeopaths who are well accredited members of our society. The practice of medicine and therapeutics, outside of charlatanism, is an individual matter. We may say what we please, what we do, and how we do it, but it depends upon the impression. If the physician is intelligent it is his examination of the patient that makes an impression upon his mind at the time, so that he is determined to find out what is necessary to do, what is the best remedy to give, in what size doses, how often repeated, and how long continued. We get along nicely with these homeopaths. I was called in consultation with one of them yesterday in a very abstruse case. We did not have a particle of difference in regard to the treatment of that case, and the treatment I recommended was such that he endorsed it fully.

A MEMBER: In your consultation with a homeopath, would you accept the doctrine of *similia similibus curanter*—how would you agree upon that?

DR. WILLIAMS: I would not agree to it at all.

A MEMBER: I simply asked for information.

DR. WILLIAMS: I am conscientious in regard to my plan of treatment, and if the family wants a homeopath, they can take him, but I am just as friendly to him as I was before. I will make no compromise under any circumstances when it comes to an honest difference of opinion, either as to diagnosis or treatment.

I will submit a written report to the secretary regarding our county society embracing the remarks I have made here; but I want to know what the members of the House of Delegates think about the kind of practice I have been talking about.

W. B. McCLURE: Two or three years ago this society appointed a Committee on Contract Practice, of which Dr. Rodman was a member. I do not recall the report of that committee, and maybe Dr. Rodman can enlighten Dr. Williams as well as the House as what that report was and how we stand with regard to it.

H. D. Rodman: The committee approved of this kind of practice, provided the salary was commensurate with the work required, but it condemned this system of practice for any kind of association, or lodge which asks for more service than it pays for, and that all physicians who did it would cut themselves off from the Kentucky State Medical Association. That is about the substance of the report.

THE SECRETARY: The secretary of the American Medical Association, who is *ex-officio* secretary of its Judicial Council, is present at this meeting, Dr. Alexander R Craig, of Chicago. Dr. Craig is a life-member of the Kentucky State Medical Association, and as the Judicial Council has been investigating this question, I would like to request that Dr. Craig be called upon to say a few words on contract practice generally.

DR. ALEXANDER R. CRAIG: I can briefly answer the question of Dr. Williams by trying to quote in thought, off-hand, but not in actual words, the principles of ethics of the American Medical Association adopted last June, which says with regard to contract practice that it is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patients or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession. The other point that makes contract practice unethical is that this form of contract practice is such that the physicians of the community do not have the opportunity to obtain for themselves a legitimate clientele. In other words, it is unprofessional to "corner the market" if I may use that expression. This whole subject of contract practice is a deep one, and too large to enter upon here this afternoon. It is one that has a distinct economic side, and our ethics must be substantiated and must coordinate with the economics with which we have to deal. Contract practice must be discussed from the standpoint of the patient who receives the service, and it must be thought of from the standpoint of the physician who gives or renders the service. It must be considered from the standpoint of the physicians of the community; it must then be considered from the point of view that this contract practice has upon the profession as it relates to the members of the community, and we must never forget to consider the influence that this form of practice has upon the community itself. We must consider all these various phases. I think the general trend of opinion is that so-called lodge contract practice is the most vicious form of so-called contract practice. It is an effort on the part of the community to give over to the profession such a reasonable return for professional services as the normal sickness in the community warrants. Such an equalization of things can be worked out. The vicious part of contract practice is that one or two men should of necessity overcrowd themselves when they know they cannot legitimately and conscientiously serve the community. It is generally understood, I think, the ordinary forms of lodge contract practice are the most vicious. Other forms of contract practice may be recognized and endorsed as purely economical problems

U. V. WILLIAMS: If this Society was organized in 1853, as I have stated, why should not this be the Fifty-ninth instead of the Fifty-seventh Anniversary of this organization?

THE SECRETARY: So far as I am concerned, in making up the record, I was not present at the accouchement of the Society, and have only had access to the minutes just after the war, and the numbers have been consecutive up to the present time. There may have been some meetings missed during the war.

DR. RODMAN: I move the secretary be instructed to date this meeting, so as to make it the Sixty-second Annual Meeting.

Motion seconded and carried.

CLARK COUNTY MEDICAL SOCIETY.

DR. C. G. STEPHENSON: Inactivity has been the chief characteristic of the society for the past eight months. No meetings of the society have been held sinc March. The best of feeling prevails among the members of the profession. No malpractice suits have been instituted and none threatened. We have 27 members in good standing, having paid up all dues. There are 5 who remain out of the society for reasons best known to themselves.

The society will return to day meetings instead of night meetings. The interest and attendance were better at the day meetings. The society promises to furnish a better report next time.

HART COUNTY MEDICAL SOCIETY.

J. J. ADAMS: The Hart County Medical Society during the year has accomplished very little, the members are not enthusiastic and there are so many in the county that we are unable to get to join the society that it is very discouraging to the few that try to keep up the society.

We have just had an epidemic of diphtheria, about fifty cases with five or six deaths, no deaths in cases that antitoxine was used in so far as I know; we also have now an epidemic of scarlet fever and whooping couph, no deaths reported.

The County Board of Health, on account of the neglect of the Fiscal Court to elect their member has been decided by a magistrate's court to be null and void and all orders as to quarantine, etc., made by said board without force or authority of law.

LOGAN COUNTY MEDICAL SOCIETY.

WALTER BRYNE, SR.: The Logan County Medical Society has 27 members, just the same as we had in 1911. There are 8 members of the profession in our county outside of the society. Four of them reside in the same village. What keeps them out I cannot say. They gave no valid reason. We have two members from the same village and I am happy to report that they do two thirds of the paying practice in that section.

One of the "outers" is just on our border line and is so remote, 19 miles, that he says it is too far. One other has gone into merchandise and has about given up the profession. Another has turned farmer, and one has retired on account of age, so I have accounted for all 8 of our derelicts.

While we have the same number (27 paid-up members) in 1912 as we had in 1911, the interest in our monthly meetings has fallen off. What can we do to make our meetings of more interest to our members? A question I wish some of you would answer for me. There are some ten members out of the twenty-seven who seem to take an interest, but from fifteen to seventeen of our members rarely attend once a year perhaps, and some do not even do that well. They pay their dues, but that is all they will do. Is there any way to disbar them for failure to attend. I hope you will do something for us.

LAUREL COUNTY MEDICAL SOCIETY.

J. G. OWSLEY: The delegate from our county is not here, but I will make a verbal report. I can say all he would say if he were here. I am sorry to have to make a report from my county. I do not feel myself responsible for it.

We have not had a meeting since last December, at which time the society officers were elected. I have talked to my fellow physicians in regard to the matter, and it seems all interest has been lost. A physician and myself were talking the other day as to what we might do to create renewed interest in our society work. That is what we are figuring on. We are figuring on starting anew and electing new officers again, and instead of having our meetings at our county seat, arrange to have the meetings held in different parts of the county, and in this way meet with other physicians in the county. We believe we will create renewed interest in this way. We talked about electing officers for the society altogether outside of our own town and see if we cannot get physicians to attend the meetings in that way. We have disadvantages in that we have bad roads, so that in the winter time some of our physicians can hardly get to the county seat to attend a meeting on account of these bad roads. They have to travel twelve or fifteen miles; still that is not the cause of the lack of interest. Just why interest has been lost in our society work I do not know, because when I spoke to the members about it they did not seem to assign any reason, and the only thing I can say is that there is a great lack of interest. We have 21 physicians in the county, and all of them do not belong to our society. Some of them are not paid-up. If any suggestions can be made whereby more interest can be taken in the society and bring it to life again, we should be glad to receive them. Personally, I would be glad to see our county society carry on investigations in connection with the hookworm. A great deal has been done in our adjoining county and in Bell county in regard to hookworm. I have done considerable work myself in connection with hookworm disease, and I believe I am the only physician in my county who is doing anything in regard to it. I find people are just as much affected with hookworm disease in my territory as are those in Knox and Bell counties, and I would be glad if something could be done in my county to increase interest in it, and get down at the hookworm question if nothing else.

MERCER COUNTY MEDICAL SOCIETY.

J. TOM PRICE: The Mercer County Medical Society during the past year has assembled each month in regular stated meeting. A program for the entire twelve months was made up at the beginning of the year, essayists appointed and subjects assigned, and printed upon postal cards that were mailed monthly to each member.

The papers have been good. Sometimes the appointed essayist would fail to appear or send his paper to be read by title; but usually case reports, a clinic, a voluntary paper, or pathological specimens and talks were forthcoming. The attendance has been an average of 8 members per meeting. We had 21 members in 1911. Two members have been lost by removal to distant states. The present membership numbers 19. There are only 3 eligible physicians in the county who are non-members.

NELSON COUNTY MEDICAL SOCIETY.

HUGH D. RODMAN: In reporting the condition of medical matters in Nelson county, I take pleasure in saying that we are not going back, but are marching slowly forward. We are getting along peaceably and pleasantly, both professionally and socially. We have had no hair pulling or blood shedding since my last annual report. Numerically we have held our own both in the society and out of it. Ninety per cent. of Nelson county physicians are members of our county society, although our State Secretary says only 76 per cent. are members. Where he gets his information, or how he bases his calculations I am unable to tell. We have 20 practicing physicians in the county, and I have included in this number 1 man who is not really a practicing physician. Eighteen of these 20 are members of the county society, and are paid-up members of the State Society.

Our State Secretary says that we have 26 physicians, and that 20 of these are members of the State Society. Now, gentlemen, the report of the State Secretary is not correct. If in my report I include the colored combined preacher and doctor and the osteopath, we have only 22 who could possibly be raked up under any construction of our law. The osteopath says that he is not a physician, that his work is purely mechanical, therefore, I do not believe that he should be reported as a physician and have not reported him. As to the colored brother, I have always doubted the propriety of reporting him on account of his dual occupation. I suppose that the State Secretary included both of these in his report, and then added 20 per cent. to cover doctors that I may have lost or overlooked.

The only change in the profession of our county is the addition of Dr. W. P. Nuckols, who removed from Washington county into our county during the year. He is not yet a member of the county society, but I expect him to be with us next year.

Our society held its regular meetings, with somtimes a small attendance, but we never failed to have at least one paper, and good discussions.

It will be seen from the report of the Business Manager of the JOURNAL, that we contributed more than our quota of original articles to the JOURNAL. While I regret that we had not more and better papers, I rejoice that we are doing our full share. So all in all, we are carrying our full burden of the work of the profession of the State in every way, in contributions to the State JOURNAL, in public sanitation and preventive medicine and in legislative matters.

In conclusion, I promise you that, at least in some respects, the report of 1913 shall be better than the report of 1912, that is, if I live and keep my health.

M'CRACKEN COUNTY MEDICAL SOCIETY.

DELIA CALDWELL: Of the 51 members on our roll at the close of last year, 2 have removed from the State, one resigned from the society in sympathy with one who was expelled last year. Five have been dropped for non-payment of dues. This leaves 43 old members, and we have had two new ones, making our roll number 45 at present.

We have had many good meetings and excellent papers, although the attendance is not so good as it ought to be.

We have volunteered to furnish a visiting staff to our tuberculosis sanatarium at Jackson Hill, in the county, and at the request of our City Health Officer, Dr. C. P. Burnett, expect to inaugurate medical inspection in our public schools.

Our greatest difficulty is to get the members to furnish the scientific papers and discussions for our meetings. There are a faithful few, however, upon whom we can always depend.

NICHOLAS COUNTY MEDICAL SOCIETY.

A. H. DURRUM: In regard to the condition of Nicholas County Medical Society will say there has been but one meeting of said society and that there has been no effort on the part of President or Secretary to hold meetings, therefore, no work has been done.

OLDHAM COUNTY MEDICAL SOCIETY.

J. A. FREEMAN: I find in looking over the books of the Oldham County Medical Society that the last meeting was held in December, 1911, when officers were elected for 1912. Dues were paid into the State Medical Association, and the last Thursday in January, 1912, was named as the date for the next meeting, and it is still next for the society has not had a meeting up to this date. However, a meeting has been called to take place October 28, at 1:30 P. M., at the office of Dr. J. A. Freeman, Crestwood, Kentucky. If such meeting convenes we will report its doings at the end of this report.

Oldham county has a fine body of general practitioners, tried in the fire of long service and proved to be worthy, each one in his sphere doing well and holding his own through all the ups and downs that medical men are heir to. They speak well of the county society, but when it comes to getting them together, or getting them to pull together for the upbuilding of the society, they are decidedly weak in their knees.

We had a meeting a short time ago with Dr. Speer, vice-president in the chair, with Dr. Burnett and myself present, although all other members were duly notified of this meeting. At this meeting Dr. Burnett was made secretary. Dr. Harthill resigned to go to California. We have twelve paid-up members, leaving five on the delinquent list.

PENDLETON COUNTY MEDICAL SOCIETY.

J. F. DAUGHERTY: The Pendleton County Medical Society has had, we think, a successful and profitable year. Prior to this year we had been holding all our meetings at Falmouth, the county seat, but this year we are meeting in Butler, from October to April. The latter place is more centrally located for those of us who must make long drives during the bad weather of the winter months. We find the plan is working nicely, as the attendance is keeping up and the changing of the meeting place adds something to the social enjoyment of the members.

As usual we have had the years' program arranged and printed in advance, and with a few exceptions every member has carried out the work assigned them. The report of and presentation of clinical cases has been an unusually interesting feature of our years' work, and on the whole we feel that our society is "keeping up with the procession."

Death has entered our ranks for the first time since the organization of the society, and Dr. J. H. Barbour, our first president has been taken from us. Ripe in years and in the fruition of his labors, he went to his reward loved and respected by every one in the community in which he had labored for more than sixty years.

I noticed in the JOURNAL that Pendleton is credited, or rather charged with seven non-members. This is an error as we have only three physicians living within the county who are not active members of the society.

SHELBY COUNTY MEDICAL SOCIETY.

S. L. BEARD: We have an active membership of 22. We have lost one member by death, one by removal. We have monthly meetings, which are held on the third Thursday of each month, except the months of July and August. At each meeting some member gives a clinic, if possible. We usually have an all-day meeting. I am sorry to say, not as many papers have been read in the past year as there should have been.

TAYLOR COUNTY MEDICAL SOCIETY.

O. R. REESER: Taylor County reports 11 members, and two who are not members. One of these is a very old man. While he claims to be in active practice, he is not. The other one is principally a farmer. In regard to our monthly meetings, we have only had two in the last year. Why some of the doctors do not like to attend, I do not know. We are going to try meeting at different residences of the doctors in the county, said one of the doctors, to see whether the attendance will be better. We tried that, and I don't think there is a man left. So it is not the country man's fault any more than it is you town men. But all of the physicians in the county are very harmonious. There is no trouble. We get along like brothers, but I do not know why we do not have a better attendance, but we do not.

DR. WILLIAMS: I rise to a question of personal privilege.

THE PRESIDENT: State it.

DR. WILLIAMS: Governor McCreary appointed a State Tuberculosis Commission, of which your humble servant has the honor to be a member, and the Chairman of the Committee on Publication and Literature. Governor McCreary is billed to appear on this program on Wednesday afternoon, the fourth member to begin the symposium on tuberculosis. Your committee has appointed me to make a report to the House of Delegates later. Governor McCreary did not receive his invitation in time to accept it, because he accepted an invitation previously for the same day. He has asked me if I would represent him. I told him provided he would read my paper that I had prepared for the House of Delegates and would request that it be read before the whole assembly. That paper I submitted to him. I have in my pocket the unqualified endorsement of the Governor to the sentiments expressed in it, the main feature of which is that it embraces the propaganda and the program that this Commission in the next two years expects to adopt in the prosecution of its work, both educational as well as practical. I ask that I be transferred from the reading of that paper to the House of Delegates to the fourth number on the program of the symposium, and I do it at the request of Governor McCreary, with his endorsement of the paper, that it is exactly what he would want to say if he could be present. He paid me that compliment.

THE SECRETARY: I rise to a point of order.

THE PRESIDENT: State your point of order.

THE SECRETARY: Under the By-laws the program as printed can be changed only by unanimous consent except upon the recommendation of the Committee on Scientific Work. The committee has, however, acceded to Dr. Williams' request, but the program this year is divided up into hours. There will be two hours devoted to the symposium on Cooperative Public Health Work. Upon the receipt of Governor McCreary's declination to be present at this meeting, his place was supplied by Passed Assistant Surgen, Joseph Goldberger, of the United States Public Health Service. The committee has requested that instead of putting Dr. Williams on the first thing in Governor McCreary's place, that he be put at the end so that we can hear his excellent paper if there is time. It would be a violation of the rules to do otherwise, and Dr. Williams is such a good parliamentarian that he can fully appreciate the point. We all admire Dr. Williams and are grateful to him for his splendid patriotic work in the promotion and protection of the public health. We are going to hear Dr. Williams' paper as President Hancock has made a special effort to see that Dr. Williams is put on the program.

Before I sit down, I would like to move that the Presiding officer be requested to see that there is no smoking in the church during the meeting.

Motion seconded by several and carried.

On motion, the House of Delegates adjourned.

October 29.—Second Session of the House of Delegates.

The House of Delegates met at 8:20 A. M., and was called to order by President Carpenter.

It was moved and seconded that Otto Mueller, Henry H. Bertlekamp, and William Vottler of Louisville, representing the Kentucky State Pharmaceutical Association, be extended the privileges of the floor.

Carried.

THE SECRETARY: I move that the President be authorized to appoint a committee of three to meet with the State Pharmaceutical Association at its next annual session as a Fraternal Committee to carry the greetings of the Kentucky State Medical Association and discuss with them matters of mutual concern.

Motion seconded and carried.

THE PRESIDENT: The next order is the reading of the Minutes of the previous session.

THE SECRETARY: I move the reading of the Minutes be dispensed with.

Motion seconded and carried.

THE PRESIDENT: We will now listen to the report of the Committee on Journal, Walter Byrne, Chairman.

Dr. Byrne read the report as follows:

To the House of Delegates:

We have the honor and pleasure of submitting the following report of the Kentucky Medical Journal.

Sometime back in the eighties or nineties there was born to us a babe. It's parentage was questionable but we were sure of one thing, it was born "of poor if honest parents." It's struggle for existence was fierce. As with all new-born infants, the first thing is to infuse into it's nostrils "the breath of life." "The breath of life" in this "babe of ours" was dollars and cents. No milk was needed, not even Horlick's or Mellin's food nor the "milk of human kindness" would avail us then; the dollars of our daddies were the food needed for "our babe." The mother, poor thing, was herself suffering from inanition, and the help she gave this infant was not nourishing.

The wet-nurses, God bless them, stood by this "babe of ours" and did all that wet-nurses could do; but the times and the tides and the foods were all against them. The "*esprit de corps*" was lacking, and our infant lived, that was all; and at times seemed to be getting on; but would like all babies take on all the ills that babyhood "is heir to." The exact apportionment of food to that particular person, with his particular needs, at each particular time—means much. So along in 1906 a new nurse was selected for this "babe of ours." Whether the babe was just at the turning point and was "gwine to grow any way" matters not; anyway he did begin to grow and has been growing into the sturdy lad we have to-day, almost able "to go it alone." Why gentlemen, the new wet-nurse has been such an inspiration, to even the mother, that she has gone and done it again. So to-day, we have "two babes of ours" and there is no feeble wails emitted now-a-day from the sick room, only cooes and gurgles of contentment and satisfaction; for the food is what "babes" need to make them thrive and fatten. Why sirs, our youngsters are a pride and inspiration to us all, and are ever welcome visitors to our homes and firesides. No longer do we gingerly tuck them away, when some traveling salesman visits our sanctorum, but we push them forward and ask him what do you think of these? Why don't you patronize us if you want to make good?

"Our first born" is now three times as large as "he uster be" back in 1906, and "our second" is double the size of "our first" in 1906. Now surely, credit is due somewhere along the line; and while the assistant wet-nurses shall each receive a share, the lion's share must be given to our head nurse, our faithful and efficient Editor-in-Chief, Dr. A. T. McCormack.

The Committee felicitates you gentlemen of the House of Delegates in having at the helm so efficient and so able and so capable a man. May his shadow never grow less, and may he long continue to wield the pen, and direct the destinies of the KENTUCKY MEDICAL JOURNAL. (Applause.)

THE PRESIDENT: The next order is the Editor's report.

THE SECRETARY: My report as Editor is contained in the report of the Secretary. I want to repeat two suggestions. I think the Council should be instructed to amend the contract for the Jefferson County number so as to require that copy for the Jefferson County number be submitted at the time specified in the contract with our printer. It cost a little over $500 this year because that was not done. In the second place, I think this Association should take such steps as to get before its membership the matter of patronizing advertisers in the JOURNAL in Louisville by the physicians of the State when they come to Louisville. That will do more good than anyone of you can do in helping Dr. Simpson in securing advertisers. If you go into a store, ask them if they advertise in the KENTUCKY MEDICAL JOURNAL. This will do more good than all the soliciting that can be done. When you say to them that you are a stranger in Louisville; that you do not know the firm, and ask them if they advertise in the KENTUCKY MEDICAL JOURNAL, and if they do, the Association will stand for any trade that is made, and guarantee that you will not be soaked in that store. We take pride in that thought. There is not another publication in the world that guarantees its membership protection against any advertising patronage in its publication. We would like to have your help along that line.

W. W. ANDERSON: In that connection I would suggest that it would be convenient to have a copy or two of the issue here. We members of the State Association from a distance do not pay any attention to these advertisements in the ordinary course of receiving the JOURNAL because we are not near this field. We do not remember who the advertisers are.

THE SECRETARY: Dr. Simpson has several lists printed in big letters, and we will have them in circulation.

I move the Council be instructed to make such arrangements with the Editorial Committee for the Jefferson County number, so that we can secure copy at the time provided for in the contract.

HUGH D. RODMAN: I second the motion. Carried.

THE PRESIDENT: Is there any report from the Business Manager of the JOURNAL?

THE SECRETARY: The report of the Business Manager will be found on page 789 of the October First issue. The Business Management would like to call attention of the membership to the Commercial Exhibit which is installed at considerable expense. These exhibitors pay a large part of the expenses of the annual meeting, and so far as possible we would ask the members to patronize the exhibits, and pat the exhibitors on the back.

It seems a pity that every county society cannot do as Daviess County Medical Society. This society has had eleven articles published in the JOURNAL. In Nelson County the minutes this year have only been published twice. We ought to have the minutes, at least, of every meeting of every county society in the State published in the JOURNAL. It would be a good thing if we had more men in our membership like Dr. Steele Bailey who, when he was secretary of the Lincoln County Society, wrote a brief statement of what other men said in every discussion that took place. That brief discussion was worth more to the membership of this society than almost anything that happened, particularly if the men knew they were represented in the minutes. If the secretaries will bear that in mind, it will do more good than anything else they can do. This is really a serious matter. During the year 1912 we have had the minutes of the Campbell-Kenton County Medical Society for publication twice. This society is doing monumental work, and it is a shame to have it buried in a minute book and not have the membership of the State get inspiration from it. It is not a square deal to the rest of the doctors in the State, who may not hold or attend regular meetings, not to have the advantage of reading the minutes or proceedings of that society.

In Fayette county it is difficult for the membership to realize the scientific value of their work, and the real practical results that would come to the physicians of Lexington from the constant publication of the character of the work they are doing. I am convinced that no society in Kentucky is doing better scientific work than this one. The prestige given them in the State will far more than repay them for the comparatively little cost and labor involved in getting these minutes, and, if necessary, they should have an assistant secretary to do that.

Let us take Bell county. We did not get the minutes this year at all, and yet they have held twelve meetings. They have 42 doctors in the county, with an average attendance of 31. These men are attending meetings and they are writing history. When you hear the symposium on Pellagra to-day, you will realize that there are some men practicing medicine there who can take places as teachers in medicine in many of our great schools, with great advantage to the standing of these schools. They are studying the treatment of Disease, and their articles should be published in the JOURNAL, and the small additional labor involved will make the JOURNAL far more worth while. I am satisfied to-day that the Jefferson County number is worth more than all the rest of it put together, not because the Jefferson membership gets perhaps better material, but they do it systematically and get their best work before the whole profession of the State. That ought to be done in every other county. This is the history of the medical profession of Kentucky. It is a part of the history of our State, and it is to-day being written in large letters, and if the membership will help to do that, and not simply a part of it, and get busy, it will be much better for the Association and for its members. If the secretary will not write the reports, write them yourselves. Do not lay the shortcomings of the secretary on the secretary if he does not do it. You do it, and if you can't do it get somebody else to do it. We will publish anything from any county society and if it is necessary to enlarge the JOURNAL we will do so.

HUGH D. RODMAN: I am secretary of the Nelson County Medical Society. We only meet four times a year. I have sent in three reports, and I understand they are waiting for space to publish them. At the June meeting I was sick and did not report that meeting. We contributed 40 lines to the JOURNAL for the Business Manager's report, and we have two items sent in that have not been published. That will be six out of eight meetings. I think that is doing pretty well for a small county. As I told you last night, we are going to do better next year. It is very hard for a man, who is not a stenographer, to take down discussions. I will make an effort in the future to get as much as possible of what is said on each subject, and I am sure it is a great advantage. There is more in a discussion oftentimes than there is in the paper itself. You get more information frequently out of the discussion than you do from the paper itself. You get the information of a number of men in a discussion, while you get it from one man in a paper. I agree with our Secretary and Editor that every county society secretary ought to get as much as possible of the discussion on the papers read.

There is another obstacle in the way here. A man will read a very good paper, and when the secretary asks him for it, he will say he does not think it is fit for publication and will not give up his paper. We cannot get it. That has been the case with the secretaries of many societies. The secretary cannot do anything with such men. I know of one paper that was read before the society and was laid over for six or eight months. The author of it would not give it up for publication for some months. I want to defend myself in this line as secretary of the Nelson County Medical Society. I have reported three out of four meetings, but at the time of the other meeting I was sick, as I have said.

Dr. B. S. Rutherford read a paper on "Value of Reports from County Societies."

THE VALUE OF REPORTS OF COUNTY SOCIETIES.

Mr. Chairman and Gentlemen:—

We have met as delegates of the county societies from the respective counties in which we reside.

Our duty individually and collectively is to give and receive reports on the condition of affairs pertaining to the different medical societies throughout the State. To offer suggestions and friendly criticisms whenever it is needed, to cultivate a spirit of fellowship and good will toward each other; to encourage co-operation between the laymen and profession.

In fact, we wish to form a medical confederacy, if the term is acceptable, in which we would have leagued every county of the State. The purpose of which is to place medicine upon a higher plane, by bringing the physicians in closer touch with each other, thereby making us more efficient in the great battle in which we have enlisted, that of curing and preventing diseases. This being true we can readily see the value of these reports.

In order that you may better appreciate the value of reports on medical societies I think it would not be out of place for me to give you a report of the societies of Warren county.

I remember a time when the medical profession of our county was not as congenial as it is to-day. The spirit of good will and fellowship did not prevail as it does now. This, I am glad to say, was many years ago. Thanks to the influence of the medical societies by bringing us together in our meetings we have become better acquainted with each other and have found that it is not only policy but right and pleasant for physicians to be on the best of terms with each other. For a period of two or three years the post-graduate course met weekly at night in Bowling Green. The physicians from the county would frequently attend. At each meeting we would have as many as three papers on different medical subjects, in the production of which the essayist would put forth his best efforts, presenting the subject from a practical and scientific point of view. In order to discuss these papers to the best advantage the different members of the society would read up on the different subjects and I dare say there is not a physician who attended these meetings who would not say he was a more capable practitioner, and had a greater regard for his profession than he would have had, had he not attended.

Our county medical society meets once each month. We always have a good attendance. Physicians come from twelve to fifteen miles from the country to attend. The same interest is manifested in the production and discussion of papers as was in the post-graduate course. By associating together in this way we become better acquainted with, and better friends to each other than we otherwise would be.

We also have a Tri-County medical society embracing the counties of Simpson, Logan and Warren. We meet every three months, alternating the place of meeting in the three counties. If the place of meeting should be in the county of Simpson the physicians of Warren and Logan take their families in their machines to Franklin and spend the day, a drive of from twenty to twenty-five miles, where we not only enjoy the proceedings of the meeting, but a most excellent dinner and the kind hospitality which is so characteristic of Kentuckians. We could not have other than the best of friendship for members of our profession with whom we and our families have thus associated.

To show you the good will that exists between physicians of Warren county, which I think is largely due to our frequent association together in medical societies, I will relate to you a conversation I recently had with an attorney of our city. He asked me the question why it was that physicians were so loyal to each other in case one of them should get into trouble. He stated that he had recently had a client to try to get him to bring a suit against a physician of Warren county for malpractice. He said that he did not know how the physicians found it out, but that within forty-eight hours as many as a dozen doctors had seen him in regard to the matter and rather than incur their ill-will he determined to have nothing to do with the case. To my certain knowledge this same party consulted several attorneys in regard to bringing suit but the physicians were on his trail and soon appeared on the scene. The result was the suit was never brought.

Now, gentlemen, from this and other reports you can readily see the value of reports of county medical societies. You have been sent here as delegates to represent the society to which you belong. The fact that you have been chosen to fill this position; that you have left your homes and business and come here at your expense, proves conclusively that you are representative, zealous and influential men.

You will hear these reports from different medical societies, some of them—I hope most of them—will be favorable. You will naturally become enthused by the great good which is being accomplished. You will go to your homes and impart this enthusiasm to your brother practitioner. Besides this I take it that most all the doctors of the State take our most excellent State Journal in which some of these reports will be printed. Physicians all over the State will read them and see the great good that is being accomplished.

These reports should start a wave of enthusiasm which should reach the remotest parts of the State or even extend beyond the borders.

Gentlemen, I am sure that you all are proud of the fact that you are members of the medical profession. You could not fill a more honorable position. It is an enviable privilege and honor to take a part in the great work that is being accomplished, by alleviating the suffering of humanity and preventing many diseases to which they are heir. If we could have pictured to us to-day in panoramic view the untimely deaths, stricken homes and tears and grief that would have been, had it not been for preventive medicine, it would fill the heart of every physician with pride to know that this had been accomplished by the profession of which he is a member and in the achievement of which every one could and should have taken a part. As most all diseases are preventable I take the position that they can and ultimately will be prevented: I look forward to the time when practically all diseases will be banished from our midst. When the physicians duty will be to prevent rather than cure diseases; to the latter attainment of which he had never made an adept. I am highly encouraged by what has already been accomplished along this line.

Who would have thought forty years ago that Asiatic cholera could have been kept out of this country for so long a time? Who would have thought a few years ago that yellow fever, the bane of the South, which at times almost depopulated our Southern cities, could have been as completely controlled as it is to-day? I do not believe there is a limit to man's capability. I believe there are latent resources at his command and which he will discover, that will enable him to banish one by one of the many diseases until there will be but few, if any, left to be treated.

And when this happy goal of attainment shall have been reached I think we can look back over the vista of years and readily see that the reports of medical societies, by uniting the profession and establishing a unity of purpose, have played an important part in this great achievement.

On motion, the House of Delegates adjourned to attend the general meeting.

October 29.—Third Session of the House of Delegates.

The House of Delegates reassembled at 7:10 P. M., and was called to order by President Hancock.

J. W. Ellis presented the report of the Committee on Insurance as follows:

REPORT OF THE COMMITTEE ON INSURANCE.

Mr. President:

Your Committee on Life Insurance Examination Fees, begs leave to make the following report:

The Kentucky State Medical Association in convention assembled at Owensboro in 1906, recognizing the affront offered the medical profession by many of the old line insurance companies by penuriously proposing a reduction in the medical examiners fee from $5.00 to $3.00 for every complete examination made for life insurance, unanimously passed the following resolution:

"Resolved that a large experience having demonstrated that the thorough and painstaking examination of every applicant for insurance cannot be made for less than Five ($5.00) Dollars, we recommend that this amount be fixed as a minimum fee and shall be ed until 7:30 P. M. morally binding on all members in this State on and after January 1st, 1907."

The resolution further advises that its proposals include every reputable physician in the whole county whether a member of the society or not. It was advised that the agreement be not made a test of membership.

Quick action was had by every county society in the State, everyone of which heartily endorsed the action of the State Society. The justness of this action on the part of Kentucky physicians was at once recognized by every State organization in the United States and they hastened to adopt similar resolutions.

Many of the physicians have stood loyally by the resolutions, so many in fact that a number of the old line insurance companies promptly returned to paying the five-dollar fee. Yet there are companies who still pay less and many physicians are working for them for a three-dollar fee.

It is remarkable that any physician will vend his knowledge and skill for such a contemptible fee, when he recalls that his knowledge and skill cost him so much hard labor and often times so much self-sacrifice; and the further fact that the physician's skill and learning is the real foundation upon which all insurance companies are built, and upon which depends their very existence.

Your committee suggests that the Kentucky State Medical Association reaffirm its devotion to, and confidence in the fairness and justness of the resolution passed at Owensboro in 1906 and the members of the profession in the entire State pledge themselves anew to the earnest work of trying to enlist every physician to pledge himself against accepting a less fee than five dollars for every complete examination made for life insurance.

THE PRESIDENT: What will you do with the report?

HUGH D. RODMAN: I move that the report be adopted as read.

Motion seconded and carried.

J. Tom Price read a paper on "Do We Demand Five Dollars for Examinations?"

"DO WE DEMAND FIVE DOLLARS FOR EXAMINATIONS?"

Personally, and as the representative of the Mercer County Medical Society, I want to say emphatically we do. Several years ago, 1906, a resolution was unanimously passed by our county society requiring each member to demand a $5.00 fee for all ordinary life insurance examinations. Fraternal and industrial examinations were not included in this resolution. At that time I was the examiner for the Metropolitan Life Insurance

Company that was doing a good industrial business in our town paying quarterly a nice little sum to the examiner. Although the county regulations did not prohibit any member from making fraternal or industrial examinations, I gave up the Company and demanded $5.00 for each ordinary examination that had not been paid for prior to the adoption of the aforesaid resolution. The company after much protest paid the $5.00 fee, and insisted that I continue to make the industrial examinations and inspections excluding the ordinary examination. This I refused to do, as the Metropolitan Company was then, and is now a $3.00 company, and I did not care to be classed as a cheap examiner. A fellow practitioner, a member of the county society, accepted the appointment, did the industrial work, and probably made ordinary examinations too. The county society did not again take up the question of insurance fees until 1909. Another resolution was passed February, 1910, requiring each member to demand $5.00 for fraternal, industrial, ordinary and all kinds of insurance examinations. However, in March, 1911, the society rescinded its action in regard to fraternal and industrial insurance fees, thus allowing any member the privilege of making such examinations. Recently I have done some industrial work for the Metropolitan. Most all the doctors in the town and county, I think, demand the $5.00 fee for ordinary examinations. Some doctor not a member of the county society, or a recalcitrant member may occasionally make examinations for less. Commercialism, efforts to financially "size up" the patient and adroitly "bleed him" regardless of adequate services rendered, fee-splitting, rate-cutting, improper regard for medical ethics and the "Golden Rule," the forgetting of the high mission in life of the true physician and surgeon, seem to be the most baneful influences to-day in the profession.

"The laborer is worthy of his hire." The intelligent, studious, up-to-date doctor, be he physician, surgeon or specialist, of the present day should not undervalue and degrade the dignity of the profession by such practice as just cited, but cognizant of his own worth and ability demand equal and fair remuneration for services rendered. Low fees mean cheap doctors, careless, incompetent examiners. The insurance companies with few exceptions, I think, realize this fact, and do not object to the very reasonable fee of $5.00, but demand that their examiners be competent, well qualified, progressive men and members of the county, State and National medical organizations.

John G. Cecil read a paper on "What Shall We Do With Doctors Who Examine for Less than $5.00?"

WHAT SHALL WE DO WITH THE DOCTOR WHO EXAMINES FOR LESS THAN FIVE DOLLARS?

I count myself honored in being asked to discuss this question before the House of Delegates. Undoubtedly it affects, in a vital way, many more members of our Association than at first thought might appear. The struggle for existence in a much overcrowded profession, the very active competition for business and a livelihood, especially in this age of high cost of living, brings a large proportion of the medical profession face to face with the very important problem of remuneration for professional service.

In the very beginning permit me to state that I have always, and do now, put myself on record as being in favor of high prices for professional service. I do not think the doctor is ever overpaid for good work. I was one of the first to discuss the question of proper and adequate pay for medical service in local societies and in the State Association. Many years ago I declared myself in favor of the $5.00 fee for insurance examinations. In ordinary annual business with an annual premium I am still in favor of the $5.00 fee. I yield to no man more consistent effort to maintain this price. At this moment I would not make examinations for less. Because I am connected with one of the many insurance companies that are paying a fee of less than $5.00 for the examination of certain kinds of policies will, I trust, not make it impossible for me to maintain a consistent attitude in this matter. But if I do not care to make examinations for less than the customary fee, is that a legitimate reason why I should deny my brother the right to do as he pleases? He may have good and sufficient reasons for his action that neither applies nor appeals to me. Under no circumstances would I arrogate to myself the right or the privilege of saying to him, "You shall or you shall not do thus and so." It is his personal privilege to do as he pleases. In my opinion it may be unwise for him to charge less for any kind of professional service than I do, but the power does not reside in me to dictate a course of action for him neither do I concede the right to the county or State society to dictate what any of its members shall charge for this or any other professional work or service. The day of sumptuary law has long since passed never more to be resurrected. The question is not new; fees and schedules of fees has vexed the medical profession for years, and scores of years, and it is probably no nearer solution than it was fifty years ago. I state without fear of successful contradiction that there does not exist a county medical society in the State of Kentucky whose every member actually lives up to any schedule of fees that may have been adopted. You will notice that such a schedule has neither been suggested or adopted by the National or State Association, and I venture the assertion that in any county society where a schedule of fees has been adopted, it is a dead issue, "more honored in the breach than in the observance." It will be said that I am confusing the issue, that the practice of medicine and fees for professional service is one thing, and the examination for life insurance companies is another and entirely different thing. In one sense this is true, but after all the difference is not so great. In both instances the work is strictly professional and technical, the paymaster is different. If you concede (and I presume you do concede it) a doctor the right to make a sick call for $1.00 when his neighbor doctors are charging $2.00 what do you do? Why nothing, of course. You probably think he is foolish or more likely you accuse him of bidding for business by offering cheaper rates than you care to work for. But in the end you know it does hurt you and you also know that you cannot prevent him from doing so even if you would, now if one man agrees to make insurance examinations for less than a fee of $5.00 each, when you will not do so, have you the right to say that he shall not? I do not think you have. It is his own business and in all probability he knows, or at any rate he thinks he knows his own business better than you do. The real important issue under discussion is, have we the right either as individuals or as a society to say what a doctor shall charge for his own professional service to individuals or to the insurance companies? I know I possess no such right as an individual, neither can I see how or why by joining with any two or two hundred of my associates that I or we should be clothed with such right. The county or State society would have just as valid reason for dictating to its members a flat rate of $5.00 for every call on the sick, or a fee of $250.00 for every operation for appendicitis as to demand that every member should charge a fee of $5.00 for each examination for insurance.

Many young men in the profession, and older ones too for that matter, find the problem of making a living difficult; if they can afford to give their time and technical skill to an insurance company for less than $5.00 for each examination in writing the cheaper forms of insurance, I for one, would never deny them that privilege. They do not degrade themselves nor lower the standards of the profession by so doing. Each separate fee amounts to little but "many nickels make a muckle." In the work for companies writing large volumes of the cheaper forms of insurance a great many examinations are made and the aggregate of the many smaller fees at the end of the month amount to a tidy sum that goes a long way toward keeping the wolf from the door. I happen to know quite a number of doctors who make a very good living almost solely out of their examinations of this kind. The companies that write the cheaper forms of insurance are able to write many more risks than would be possible at higher rates, because they are cheaper and the people thus insured cannot afford to carry the higher priced policies. To the poor man, the wage worker, the insurance for a small amount is quite as necessary, quite as useful, quite as legitimate as the large policy is to the richer man. It often happens that money thus obtained helps to settle the doctor's bill, when otherwise had his patient carried no insurance, even of the cheaper kind, the doctor's remuneration would consist largely of "God bless you's" and "Doctor you certainly was good to us," his account books being cluttered up in the meantime with a lot of bad accounts. I pause to ask if anyone knows of a sadder, more doleful, more abjectly hopeless lot of junk than the bills of a dead doctor.

Now the insurance companies are not on trial, they need no defense from me, they have generally shown themselves capable of looking after their own interests. A stock argument is that when a company wishes to economize it begins by cutting down the fees of its examiners. I do not believe the facts justify this conclusion. I can testify that the large majority of companies are willing to pay a regular fee of $5.00 for each examination for annual or the higher priced business. They are willing in most instances to pay extra fees for extra work. They do not feel called upon to pay extra fees for an examiner's carelessness in filling out blanks. I happen to know from personal experience, that the actual cost of writing cheap forms of insurance is very high. The first cost to most companies in putting this kind of business on their books amounts to about 100% of the first year's premium. As is well known the first year's premium on a $500.00 policy will average less than $10.00. By the time the agent's commission and the overhead expense is paid, there will not be as much as a $5.00 fee left for the examiner. It will readily be seen that to pay that fee would make the cost prohibitive to the company. Insurance companies are not charitable institutions, are not intended to be, they are owned and controlled by hard-headed business men who expect to get a "*quid pro quo*" for the money they have invested. From a strictly business standpoint, they cannot afford to pay $5.00 for cheap forms of insurance, and from the same standpoint it would be bad business to do so. The insurance companies do not employ medical examiners because of the love they bear to the fraternity, but because they have to, because it is good business to do so. The doctors private patients employ him for exactly the same reason. The work of examining for life insurance is clean, the responsibility is limited, nothing like so heavy as it is in every day practice of medicine, the hours are reasonable, the pay is sure and prompt, the fee is not great, but are we ever overpaid for any of our work? We as a profession cannot force the insurance companies, so let us make the best bargain we can. The millenium is not here yet, "not so as you can notice it," accordingly then, if a doctor concludes to make examinations of certain kinds of life insurance for less than a $5.00 fee, what can we do to him? Nothing. I could not if I would, I would not if I could.

The dog in the manger attitude is not becoming or popular, so then "let's live and let live," thereby living longer and happier.

A paper by Hugh D. Rodman on "Are Our By-Laws Uniform on the Subject?" was, on motion, ordered spread upon the minutes.

GENERAL DISCUSSION ON FEES FOR LIFE INSURANCE EXAMINATIONS.

JOHN G. MOSELEY: A resolution was passed several years ago making the fee for life insurance examination $5.00. Since then there has been considerable discussion as to whether this fee should be reduced or not. I did not hear the address, but I understand the question has arisen whether we should not place some ban upon those who do not charge $5.00.

I heard Dr. Cecil's paper, and while I have great respect for him, I must differ from him. His paper sounds like one that was prepared and read by the president of some life insurance company rather than as one from a member of this association. (Applause.)

I was the examiner for the Intersouthern Life Insurance Company. An agent came to me and said they would have one or two hundred examinations a month, and that I had been selected to do all of that work. I made several examinations before I knew that the fee had been reduced to $2.00. The president of that company informed me that they could not pay more than $2.00. I told him I would not do the work for that amount. He was a business man, and not a doctor. He had been a druggist. He said he advised me as a friend that I could not afford to refuse to do this work as it would mean so much to me. I told him I could not do the work for that amount as our society demanded $5.00; that I had written to all of the companies that paid me $5.00 that it was an injustice to my society and an injustice to the companies that paid me $5.00 for these examinations; that the companies that treated us best were entitled to the most consideration, and under no circumstances would I make the examinations for $2.00, and that I did not believe the work could be done for less. A man came to me from Evansville, Indiana, representing the same company, said these examinations could be made and were being made for $2.00. I told him that I would not do it for that. To my surprise, a member of our society did do the work. I brought charges against him before our society and a vote was taken as to whether he should retain his membership or not. The result was that he was retained a member. I hope that before the House of Delegates adjourns, that we will either put some ban or impose some punishment on those who do it or let us lay the thing wide open to all. Give the honest man an equal show with the dishonest.

In what I have said I want it to be distinctly understood that there is nothing personal in my remarks, but I have simply given you my experience as an examiner and as a member of the Kentucky State Medical Association.

C. Z. AUD: If you men and the other members of our profession throughout the State and your wives and your babies were under the control of such men as Dr. Cecil, and Dr. Cecil's own company, you might be fairly safe. I think you would. But this matter is very confusing. The cheaper insurance companies want these examinations made by us for as little money as possible, and if we let them have their way, instead of getting $5.00 for these examinations we will get 50c. Perhaps most of you have had the same experience I have had. Some fellow comes to me, who is trying to organize a new company, and tells me how a few thousand dollars invested in an insurance company has made the men who own the insurance companies, that is, if he is telling the truth, and I expect all insurance people tell the truth. If they make so much money, why can't they pay the honest doctor to protect them? If they have made enormous sums of money and have declared enormous dividends, they have done it because we have given them good reasons for so doing.

I had the honor of being chairman of your committee which was engaged in the fight for better pay in making life insurance examinations. I am not ready yet to get out of the way of their guns. I propose to stand with you and let us go into the trenches together. I am fully convinced that we have got to stand together and fight as vigorously as we ever have done. There should be no let up. I have had to fight my way in every part of my life.

You will have to do it if you want to be anything in the profession. Do not think you can give up this fight and win. It is a matter of judgment in this fight, and my judgment is that we must never let up. It is dollars and cents to us. They are able to pay the fee we ask. They tell me about the enormous dividends that they declare from time to time, and the next thing they want me to do is to buy stock, and the first thing they want of me is to buy so many shares at so many dollars per share. Now, what is that extra money for except to put into their funds from which to draw dividends and put the business on a sound basis, so that they won't lose anything? I find it hard to get rid of these people. I venture to say, if you could get enough doctors interested so as to make anyone of you president of such a concern, they would have nothing to do with you. There is not one of those fellows who would want to give up.

G. G. THORNTON: Tell us what you would do as a member of the Association to any one who does the cut-rate business on regular old line insurance?

C. Z. AUD: That is a good question. I tell you what we have got to do and that is to stick together. I do not think there is anyone in Hardin county who is making examinations for the old line insurance companies for $3.00. However, if there is only one fellow making these examinations for $3.00, then all of us should do it if we feel disposed to do so. The New York Life Insurance Company is out of Hardin county. The company Dr. Cecil represents is there.

THE PRESIDENT: We need to take this matter up and discuss it thoroughly in this society and have an understanding about it. We have not finished our program, but I think it will be worth while for the House to adjourn now to meet from 8 to 9 A. M. to-morrow.

Therebeing no objection to this suggestion, the House of Delegates accordingly adjourned.

OCTOBER 30.—FOURTH SESSION OF THE HOUSE OF DELEGATES.

The House of Delegates was called to order at 8 A. M., by the President, who said: I desire to submit the following in regard to Dr. Cecil's paper: I recommend that each component society shall judge of the matter as to whether a member in making these examinations for less than $5.00 is ethical in his conduct or not. I did not think this man was ethical at the time, and I recommend that there be added to the Committee on Life Insurance three other members, and that they report to the House of Delegates at the earliest possible date, considering the paper of Dr. Cecil and the matter as to whether the local society should judge of these matters and report on them.

As there are so few members of the House of delegates present this morning, perhaps it would be well to refer this matter back to the committee.

DR. THORNTON: I move that we refer this matter back to the Insurance Committee for further report.

Motion seconded and carried.

THE PRESIDENT: Who shall we appoint as the three other members?

THE SECRETARY: I would move that Dr. C. G. Daugherty, Dr. B. M. Taylor, and Dr. C. Z. Aud be added to the Committee on Insurance, and that this recommendation as adopted be referred to that committee.

Motion seconded and carried.

F. A. Stine presented the report of the Committee on Collection Bureau Plan, prefacing his report by the following letter received from Dr. Phillip Mills Jones, of San Francisco, California:

October 7, 1912.

Dr. F. A. Stine,
227 East Sixth St.,
Newport, Kentucky.

Dear Doctor:

Replying to your telegram of the 5th, which reached me this morning, I beg to advise you that under separate cover I am sending a full set of collection outfit which was used in Los Angeles.

It was found, however, that the only valuable part of this consisted in the pasters, and therefore we are supplying to our members only these pasters. They cost us $52 a thousand and with envelopes and postage it brings the cost to a little over 7c a piece. They have only been out for about two months, and so I have no means of knowing whether they have been found satisfactory by those who used them. I have used them for a long time on our bills, and find that they work very well indeed.

Any further information that you may desire will be very cheerfully furnished.

Cordially yours,
P. M. JONES, M. D.,
Secretary.

We, your Committee on "Collection Bureau Plan" beg leave to report that we have examined into the scheme of Collection Bureau Plans as thoroughly as the time we had under consideration would permit. We have looked over the plan adopted in California and find many good features connected with it, but as it has only been working for about two months, we are of the opinion that it is too early to say whether it is a success or not.

We would suggest that your honorable body appoint a permanent committee to more thoroughly probe into the matter and see if the plan is feasible or not and that the permanent committee have authority to confer with the attorneys on medical defense for their opinion on points of law.

We hereby submit the California Plans with pasters, etc., also letters from Dr. Jones, Secretary of the California Medical Association for your perusal.

In connection with the report Dr. Stine said: There are two things that are very necessary for a person to be successful in the practice of medicine, and these are, first, that he must be a good doctor, and, second, a good collector. My experience with physicians has been that while they are good physicians, they are the poorest collectors I know of. The profession has been hounded and beaten by more collecting agencies, I believe, than any other class of men on earth. Take the collecting agencies we are bothered with to-day. If you give them accounts to collect, it is harder to get the money from them than from the people for whom you did the work originally and who owe you. I have had experience with the Sprague Collecting Agency of Chicago, and the Whitney Collecting Agency of Massachusetts, and you cannot get money from them, and you really lose what you give them to collect. I would warn the members of the State Society regarding either the Sprague Collecting Agency or the Whitney Collecting Agency for the reason that if you give them accounts to collect it is many months before you hear from them or they are willing to settle with you, and even then they are going to try to beat you, and you might as well try to beat them at it. There is nothing better in my judgment than to have a Collection Bureau attached to the Association. We as physicians want some collecting agency in which we have perfect confidence, and if a plan similar to that adopted by the California State Medical Society could be adopted by us it would be a good thing. There, they have a contract with a collecting agency in which they have implicit confidence. This agency takes accounts and places them on a sliding scale of from 10 to 50%. They also have a plan of stickers that they put on bills calling the attention of patients to their accounts, stating that they are overdue, neither one of them being of the same character. There is a little variation in the wording of these stickers. Then they have five letters that they send out from time to time with the account, calling attention to the fact that the account has been overlooked, and that if they do not pay attention to it, the account will be placed in the hands of a collecting agency. While the plan has not been in existence for more than about three or four months in California, yet they report excellent results. It is too early to take their results because the bureau has not been in existence long enough. If this plan is taken up by a committee of the society, they can ferret the thing out, and if they can find a good collecting agency that is honest (and I think they will have to look a long while), and put it under the guidance of the State Association, I believe it would be a good thing for the profession at large.

Dr. Daugherty is on that committee and I would like to have him make a few remarks.

C. G. DAUGHERTY: I received a month ago an envelope containing this plan of the Los Angeles Medical Association. I must say that my experience has been similar to that of Dr. Stine with regard to these collecting agencies. I believe something of this sort could be made available to the members of this society, and if taken up by a committee and arranged by the State Association, so that it was available to each county society that wishes to make use of it, it will be a great help in collecting accounts. My experience with these bureaus has been similar to that of Dr. Stine. My experience with the United States Federal Company of Chicago has not been satisfactory. One of our physicians, who had a number of accounts to collect, said that he could not get back the money they collected for him. A great many of the accounts said to be collected were not collected at all; in other words, that we sent to them strictly bum accounts that had been outlawed. The reason why some of these bureaus are not as successful as they might be is because they have a sterotyped method of collecting that works well only with a certain class of people, but when they have a dead-beat to deal with, they may send him a number of these letters, and he will pay little or no attention to them. There are dead-beats in all lines of business. I should urge that where this method is used, that actual proceedings be entered into. I believe a properly restricted black-list that is referred to a committee, so that no great harm can be done, will make this bureau of some use, but without that list I believe there would be little advantage in that sort of agency over collecting the bills ourselves. There is no reason why those who are dead-beats, strictly of that class, should not be known to the other members of the profession. I would not in any way change the method of dispensing charity to those who are worthy of it, nor in any way get away from the ancient reputation of the medical profession, but I feel there is a great deal of danger in a class of men who practice medicine for money only. Every one has such a man in his community and in his town, and men are more apt to use this influence to some detriment to the name of the profession for the dispensing of charity and of doing harm to worthy people, but with the plan of referring it to a bureau of able doctors, I believe if such men were put on the black-list there would not be much harm done, and we might as well conduct this matter on business principles. I have looked over this plan that has been mentioned by Dr. Stine, and I believe it is a good thing.

THE PRESIDENT: We will now listen to the report of the Committee on Legislation and Public Policy.

C. Z. AUD: A written report from both the State and National bodies has been published in our BULLETIN; therefore, it is unnecessary to present a written report at this time. I wish to state, however, to the House of Delegates and to the State Society, that we had just about all we could do to hold our own in the last Legislature, and in this you have not only to sympathize with the State Board of Health but with the other Legislative committees while the Legislature was in session. We held our own, and we more than held the people's own. That is a point I want to make. We as a body held our own and did great good to the people of the Commonwealth. By the powers of the women's clubs of Kentucky, we did keep the vital statistics bill alive, and to these good women we are indebted, and the people of Kentucky do not really appreciate how much they are indebted to these women. They not only came to our aid, but took the lead, and without them nothing could have been done in sustaining that law. They took a very active part.

Another thing they brought about was an appropriation for the Tuberculosis Association; and they did get rid of the common drinking cup. These ladies did that, and we should give them credit for it. It would have been the death of anyone if any member of the Board of Health had come to Frankfort with any kind of argument.

As to the National body which we have been looking after, I wish to say to you, who are not familiar with this kind of work, you have no idea how difficult it is to go up against an already organized influence. In this county we have various departments looking to the health of the people, but there was in one department, one National bureau of public health. I do not say that these bodies were jealous of each other; it is not that, but you know that everybody looks first to their own interest, not because they are selfish, but because they know what their body can best do. They know the good they can do. And we found these men were fearful that their good influence might be lost in a national bureau. I find that to be the case according to my views after being on that committee for years. Others see it the same way, so that it seems the consensus of opinion is that the best thing that we can do is to consult with the various bodies and bring them into this, get them interested in this union just as we did the medical schools in this State. It was an easy thing to bring about a merger of the schools after every man found he was going to be treated right. The thing for the doctors all over this country to do is to try and bring the leading minds in these various bodies together and interest them in a union of all these forces into one great national body which will finally have an officer in the Cabinet of the United States. There is the United States Public Health Service, as it is now named. It was the old Marine Hospital Service. There is a children's bureau, a bureau of chemistry, of which our distinguished brother, Dr. Wiley, was the chief. Now, there is also a division of the vital statistics census bureau. No superstructure was ever built on a better foundation than we can make by using each one of these departments as a foundation stone to bring about this union of the powers and of all the good men, and there are many. Perhaps all of them are good, so far as I know, in these various departments, and if we could bring them together and bring them into our counsel and advise us how to use these various foundation stones, we will build a superstructure that will stand the ages.

THE PRESIDENT: You have heard the report of Dr. Aud.

J. N. McCORMACK: I am not a member of the House of Delegates, but in connection with the report on Legislation and Public Policy, I would like to have the privilege of saying a few words. Since the passage of the Medical Law the State Board of Health has been able to administer it without ever asking the aid of a postage stamp from the medical profession of Kentucky. We have supported our Legislative Committee at Frankfort at our own expense, and we have employed lawyers that have been able to do what was necessary for the prosecution of quacks, and our law has been administered in a way that has not been done in a better way by any other state in the Union. We are the only State that has no advertising quacks as a result of the investigation of the inspectors last year. The Attorney General gave us the opinion that we had no authority to use any of our funds for the prosecution of violators of the Medical Law; that we could not employ attorneys as we had done in the past; that we could not employ detectives, and hence the hands of the State Board of Health have been crippled. I at once started in this work guaranteeing that these matters would be attended to on my personal obligation to the attorneys and detectives, and we have been going on with the work, but we are greatly handicapped, and immediately after the ruling of the Attorney

General one of the worst quacks who has ever been in Kentucky made his appearance here. We took out warrants for four of them and are arranging now to get a number of indictments, but we are very much handicapped because we cannot use any of the funds. Mr. Kohn, who has represented the State Board of Health in these matters, has practically never received any compensation. He has done his work with great joy and pleasure. He is one of our greatest lawyers. He has done his work practically without compensation, and while we have promised him funds we have never been able to get them, but he has gone on with the work. He was offered $5,000 to represent the other concern; he has for the second time turned down that fee and goes on with our work without compensation. We want the support of the State Medical Society in this movement in enforcing the medical law and we must have funds for this purpose, and I ask you to make an appropriation of not to exceed one thousand dollars or authorize the council to do so and to give such assistance from time to time as to keep the people from being over-run with quackery as is now going on in the other states. Unless we can do something we are likely to be in the same condition as the other states. Perhaps the wiser thing would be to refer this matter to the council with authority to act until the next session of the General Assembly when with the assistance of the Attorney General we will seek to amend the law. I hope you will give the council that authority.

J. W. ELLIS: In order to enable the council to act on the suggestion of Dr. McCormack and which seems absolutely necessary for the protection of our interests, I would offer the following resolution:

Resolved, That the council be authorized to cooperate with the State Board of Health in the enforcement of the Medical Practice Act and to employ attorneys and detectives in such cases and to incur such other expenses as may be found necessary, not to exceed one thousand dollars.

I move that this resolution be adopted.

Motion seconded.

W. W. RICHMOND stated that this matter had been considered and approved by the Council.

PRESIDENT HANCOCK: Before I put that motion, as the chairman of this meeting I want to say in connection with the recommendation in the address that I had the pleasure of making to you yesterday, that I am not supposed to favor or disfavor it, but I wish to say that while this expense seems necessary, it is high time that the people pay for these things. The medical profession has been doing these matters a long time, we are going perhaps to continue to do it, but sooner or later we should not be called upon out of our funds to contribute 50 per cent. of our work to charity and then other funds besides. I want to say that much prefacing the action on this resolution.

Motion put and carried unanimously.

WHAT OF INTEREST WAS ENACTED IN 1912?

J. S. LOCK: There has been nothing left for me to say. The gentlemen have covered the ground with regard to the law in their remarks. Of course, everyone is familiar with what was done by the Legislature last year, because it was published in the press and through our journal as well. A very important law referred to by Dr. Aud was the Drinking Cup Law. I believe that that is second in importance only, if it is second, to the Vital Statistics Law, which was perfected through the amendments at the recent Legislature. The working of that law and its benefits we have seen already. Yesterday I saw a statement somewhere to the effect that through the working of this law the death rate from consumption alone had been reduced several per cent., and that many other good things had come through it. The Tuberculosis Commission Law with its appropriation was also passed, and the benefits from that are yet to come, which, I am sure, will be of great good.

Another thing that ought to be mentioned here, but do not know whether it is the proper place to refer to it or not, but I am sure we are all proud of the vindication given our most worthy Secretary of the State Board of Health in the cowardly attack that was made on him during the recent Legislature. (Prolonged applause.)

WHAT LAWS ARE NEEDED FOR THE FUTURE?

J. C. McCREARY: The Program Committee has seen cause to ask me to respond to the inquiry, "What Medical Laws are Needed for the Future," before this body of delegates here assembled. This committee evidently had no personal acquaintance with me, else they would have assigned this all important subject to one more able to do it the justice that it demands at our hands, than your humble servant will be able to do. Before taking up the subject of needed legislation I feel it my duty to express to you my appreciation of the work accomplished by the members of the recent sessions and the splendid acts they have given us along the line of improvement in general health Though they have been few in number, it may be an inspiration to the next body to continue along the same line.

I heartly commend them for the passage of the Pure Food Law and the abolishment of the public drinking cup. I believe our legislatures would do well to turn their attention to the passage of laws looking to the prevention of diseases. I have recently been looking over our vital statistics reports and bulletins, and noting the valuable information which they contain, I believe it a good plan that a copy be furnished to each of our senators and representatives that they may see for themselves the alarming conditions that our State is in owing to the great havoc made by purely preventable diseases, and will thereby imbue them with renewed inspiration to go forward with other needed laws for the safeguarding of the people's health.

Our statistics show that we have had in this State during the past year 18,378 cases of typhoid fever with 1035 deaths, hookworm has been found to exist in 69 counties, and in 28 per cent. of 8,824 examinations made by the State Board of Health. Another important matter that I believe should have the attention of the Legislature, and one I beg to see put into effect; to-wit: every schoolhouse, public building, and residence shall be provided with a sanitary privy in all incorporated towns and on every farm, not only protecting the citizens of the town, but people living in the country as well.

I am heartily in accord with the sentiment of our President, leading senators and representatives in congress on the question of a bureau of public health. We pass innumerable laws protecting our stock from the ravages of disease, then how much more should we value human life. I see, in our bulletins, a sentiment among the profession for an act to be passed creating an office of county health officer; this would meet my approval and support. I believe a law should be passed giving each county a health officer whose duty it is to look after the sanitary and health conditions of his respective county, and make reports, at stated intervals, to the State Board of Health on all matters pertaining to the health of his county. The health officer should be a graduate of medicine and well versed in matters of sanitation. He should devote his entire time to the work and receive a salary commensurate with the valuable service rendered for his people.

I am also in favor of a law being passed requiring that all children attending the public schools, shall have their teeth examined at stated intervals, and all whose teeth need cleaning or filling shall be referred to a competent dentist to have the work done.

If a bill of this kind was passed, became a law and was executed to the letter, we would not see so many leaving school to become chronic invalids with various stomach troubles.

We know how to prevent many diseases, but the public taxpayer has not been educated up to the point to meet the necesary expense; 24,000 people are taken away annually by the preventable disease typhoid fever, while more than 300,000 have their health more or less impaired by the disease. We are willing to instruct our representatives to pass laws to improve rivers by locks and dams, build canals, and encourage commerce in various ways, spend millions of dollars for automobiles, diamonds, and other luxuries, but somehow we never stop to consider the comparison of the loss of thousands of lives as compared to these vital necessities.

Taking into consideration all the money appropriated for the running of the national government, less than 1.5 per cent. is used in the preservation of our health. The appropriations for the public health work of the state department can only be considered trifling, with one exception and that is Pennsylvania, which makes an appropriation of forty cents per capita. There is none of our cities with an adequately and successfully equipped health department, for the simple reason of the lack of financial support to successfully perform the task. Our citizens are too prone to place the value of property above that of human life.

In many places of our country they place so little value on human life as to want no public health service at all, while others are only a makeshift or skeleton service, run without money. A mere suggestion that this board be provided with money to work would be considered highhanded extravagance.

W. W. RICHMOND: I move that when we adjourn we hold a meeting after the Scientific Session this afternoon.

C. G. DAUGHERTY: I second the motion. Carried.

C. Z. AUD: If there is no discussion on any particular topic for the next few minutes, I am sure we would like to hear from Dr. Richmond in regard to medical education.

There being no objection, Dr. Richmond read his report on Medical Education as follows:

MEDICAL EDUCATION.

We are safe in saying that the scientific study of the results of disease in the human body began with the cellular pathology of Virchow. But as this gave only the end results as seen in the examination of post-mortem structures, it led to pessimism in medicine This was, however, a great advance over the previous empiricism, but was of little value in the prevention and cure of disease, for it only gave us the pathology of the dead which gave but an imperfect idea of the living pathology at a time when the disease might have been cured by medicine or surgery. But it was a stimulus that directed us to study the pathology of the living in operative work during the various stages of the disease. This applies no less to medicine than to surgery, in many of the diseases by which the human body is afflicted. To this and the living pathology was promptly added the research laboratories in physiology, pharmacology, etc. Then came a demand for higher medical education. To meet this demand, it was necessary to require for matriculation in a medical school a better literary and scientific education, and to increase the number of years for the study of medicine in a school before the student be allowed his final examination for the degree of Doctor in Medicine. It was also necessary to greatly add to the facilities for teaching by supplying thoroughly equipped laboratories in physiology, embryology, histology and anatomy, chemistry, bacteriology and pathology, and for research work.

The change in the betterment of medical education had advanced more rapidly than the most optimistic believed possible, and no medical school in the country will be recognized as meeting the requirements of the various medical boards of examination and registration, that does not require of all matriculants an academic education of not less than four years' work in an accredited high school, which work must have a measure of not less than fifteen units.

The boards of some states require in addition to the four years high school work, one or two years of college work, and several of our medical schools require for admission a bachelor's degree from a recognized university.

The medical curriculum had to be entirely changed. The pure science in the first two years must now be done in well-equipped laboratories, by paid teachers who devote their entire time to teaching. The practical work of the succeeding years must be done largely in hospitals, at the bedside and in out-door and walking clinics—the students being divided in relatively small sections, and directed in their work by an experienced and practical teacher.

While the gradually increasing demand of the examining boards has stimulated the medical schools to add better teaching facilities and to do better work, it is pleasing to note that many medical schools have advanced their standard more rapidly than required by the boards, and have urged the boards to demand a higher requirement.

No medical school is now in recognized standing with the Asociation of American Medical Colleges, the Council on Medical Education of the American Medical Association, or the Examining Boards, that requires less than four years' work of eight months each in the medical school; and in the near future a requirement of one year's work in an accredited hospital will be added.

This rapid advancement in requirements has resulted in the elimination of many unnecessary medical schools, and very soon the number of eliminated medical schools will be greatly increased.

Had all the states in which medical schools exist been as solicitous in this matter as Kentucky, the question cf the number of medical schools needed to graduate only enough well trained physicians to meet the requirements of the people would now be solved.

While our examining board gave its moral support to the unprecedented merging of our medical school of Louisville into one—the Medical Department of the University of Louisville—the credit and honor belong to the respective members of the faculties of the Medical Department of the University of Louisville, the Kentucky School of Medicine, the Louisville Medical College, and the Hospital College of Medicine, who under the guidance of well organized minds, unselfishly made many personal and professional sacrifices, that great good to medical education might follow. At this time the two other schools in Louisville—the Homeopathic and the colored—ceased to exist. So we then have but one medical school in our State. Is there another state in which medical educators have been so patriotic, or willing to make such personal and professional sacrifices? Let this be a living example to the medical teachers in other states, for it tells us how readily medical schools may be reduced to the required number and then educate our medical students better than is done in any other country.

A Committee of our State Board of Health after a careful examination of the Medical Department of the University of Louisville, reported that the school was completely equipped for the best work in the pure science and practical subjects, and that the students were taught by well-trained and conscientious men. Upon further investigation, your committee finds this to be true and most heartily commends the excellence of the work of this school.

We find that notwthstanding the enforcement for entrance of the four years' accredited high school requirement, there are now many students in the Medical Department of the University of Louisville, who have had from one to four years' college training—quite a large number in each class having B. C. and M. A. degrees from high grade universities and colleges.

The rating of the school in the "A" class by the Council on Medical Education of the American Medical Association, has not been undeserved—as a visit to the school as now conducted, by any one conversant with the demands of modern medical training, will prove. Attendance is good, the roll is called for each class, and methods of teaching—especially in the laboratories—follows closely on pedagogic principles, demanding daily recitations, and written examinations at frequent intervals.

The new million dollar hospital which is now nearing completion, will be under the entire clinical charge of the University, and will give the faculty and students opportunities for a high class of work in every line of medicine and surgery second to none in this country. The hospital will be one of the most complete of its size in the United tSates, and in its construction and equipment is especially adapted for the best scientific and practical work in both medicine and surgery.

In commending the school so highly, with the belief that its future will redound to the credit and honor of the medical profession of our State, we would urge upon all the members of the Kentucky State Medical Association to lend their best efforts to the continued uplift of medical education in Kentucky. Then, with the united support of the members of our Association, the Medical Department of the University will continue to be graded as one of the best medical schools in any state, and its future will command the respect and confidence of the medical profession in all states.

The school has a special department in hygiene and sanitation, and by an arrangement with the Louisville City Health Department, all students are required to study practical sanitation under the immediate direction of an experienced health officer. This enables them when they begin the practice of medicine to do efficient work in the departments of health of the State and county boards. The school is much interested in sanitary science, and no student can apply for graduation until he has done satisfactorily both theoretical and practical work in this department. This your Committee wishes to commend, and it would urge the school to continue this work and to co-operate with health boards when it is possible.

In conclusion, we wish to emphasize our high appreciation of the excellent work the State Board of Health has done in encouraging the uplift of medical education in Kentucky. No board of examination and registration is more representative or efficient than the Board of Kentucky. The Board and the University are jointly interested in the continued advancement of a higher standard. At the last meeting of the Board in July, at the school, students who had completed the pure science work of the first two years and advanced to the practical work of the junior and senior years, were allowed to be examined. This is a move in the right direction, for, when these examinations are passed, the students use all the time for the practical work of the junior and senior years. This will enable them to better meet the demands of the Council on Medical Education, the Association of American Medical Colleges and the State Boards, for better trained men in the practical work.

C. Z. AUD: I think this body should pass a resolution extending our thanks to the Mayor and to the people of Louisville through the Mayor, as well as other individuals for their interest in medical education. We want such a resolution to emanate from this body.

J. N. McCORMACK: I make a motion to that effect.

Motion seconded and carried.

On motion, the House of Delegates then took an adjournment in accordance with the motion of Dr. Richmond.

Fifth Session of the House of Delegates.

The House of Delegates reconvened at 6 P. M., and on motion adjourned until 8 A. M., Thursday, October 31.

Sixth Session of the House of Delegates.

The House of Delegates met at 8 A. M., and was called to order by the President.

The election of officers being in order, the following officers were nominated and declared duly elected: President, W. O. Roberts, Louisville; First Vice-President, J. H. Hendren, Cary; Second Vice-President, T. C. Holloway, Lexington; Third Vice-President, J. Paul Keith, Hopkinsville; Delegates to the American Medical Association, Arthur T. McCormack, Bowling Green; J. W. Kincaid, Catlettsburg; Orator in Medicine, Thos. A. Frazer, Marion; Orator in Surgery, W. E. Senour, Bellevue; Councilor for the First District, W. W. Richmond, Clinton; Councilor for the Second District, Cyrus Graham, Henderson; Councilor for the Tenth District, I. A. Shirley, Winchester.

Bowling Green was selected as the place for holding the next annual meeting.

The following members of permanent committees were appointed by the President and the appointments were confirmed by the House of Delegates:

Legislation and Public Policy—C. Z. Aud, Walter Byrne, and J. W. Cooper.

Medical Education.—W. W. Richmond, D. M. Griffith and Arch Dixon.

Expert Testimony.—J. N. McCormack, Curran Pope, and H. D. Rodman.

Preventable Diseases of the Eye.—J. A. Stucky, M. M. Moss and M. C. Dunn.

THE SECRETARY: I move that the Committee on Ophthalmia Neonatorum be changed to the Committee on Preventable Diseases of the Eye.

In making this motion I desire to state, it is hardly possible for most of the members to realize the monumental work done by Dr. J. A. Stucky, of Lexington, in cooperation with the various agencies in the eastern section of the State, in the cure and prevention of trachoma.

Motion seconded and carried.

On motion, the House of Delegates adjourned until 1:30 P. M.

SEVENTH SESSION OF HOUSE OF DELEGATES.

The House of Delegates reassembled at 1:30 P. M., and was called to order by the President, who said: The regular order is completed except the work of the Sixth Session last night. The Entertainment Committee had arranged for a banquet and we had to pass it over, so that we will revert to the meeting that was passed over last night, and the first thing in order will be reports of Committees.

J. W. Ellis presented the report of the Committee on Life Insurance as follows:

Mr. President:

Your Committee on Life Insurance to which has been referred the resolution on examination fees regard that Dr. Cecil's paper was prepared from the viewpoint of our Insurance Company Officer, and that Dr. Cecil's thought is not our thought, and the Committee returns herewith the resolution passed by the Association heretofore and in addition offers the following resolution:

WHEREAS, Any physician who makes Life Insurance examinations for a less fee than five dollars, heretofore established as a reasonable fee after conference and investigation by representatives of the reputable insurance companies and of the American Medical Association thereby admits that his qualifications are not such as to demand the full fee, be it

RESOLVED, That each County Society is authorized to decide whether such admission of lack of qualification as a medical insurance examiner should be deemed unethical.

At the conclusion of the reading of the report, Dr. Ellis said: This report was prepared after considerable thought, and while it is not in the best kind of shape, yet I think it is a paper that most of the members will regard as being all that can be said on this patricular subject.

THE PRESIDENT: What will you do with this report?

R. C. McCHORD: I move its adoption as read.

Motion seconded and carried.

THE SECRETARY: I move that an official copy of this report be sent to every County Medical Society with the request that they consider it.

Motion seconded and carried.

COMMITTEE ON PUBLIC HEALTH AND SANITATION.

C. L. HEATH, chairman, presented the following report:

We deem it of great importance that some steps be taken to have medical inspectors for county schools appointed or have such an office created by our next Legislature or add such function to the duty of the county health officer. We also recommend that the Society empower the councilors to take up the question as recommended in Dr. Nuckols' most excellent paper on pellagra.

We also would recommend that every county medical society in the state be requested and urged to take up the work of securing appropriations from their fiscal courts for public dispensaries for exterminating hookworm disease from our State; that each county society work with the county boards of education to have sanitary privies built at county school houses. I can say that Knox county has made arrangements to build such closets as fast as means will permit and that the hookworm dispensaries as conducted by Dr. Lock, representing the State Board of Health, have been of incalculable benefit to our profession and public. We would urge that our State Board of Health have the hearty support not only of every county society but also of every physician in carrying on the work now in progress along the lines of public health and hygiene.

It was moved and seconded that the report be adopted. Carried.

The Secretary submitted the Principles of Medical Ethics and said: I move that the Principles of Medical Ethics of the American Medical Association, as adopted by the House of Delegates at its session at Atlantic City, June 4, 1912, be adopted as a substitute for the Principles of Ethics heretofore adopted by this Association.

The only changes from the old principles to the new are to make specific certain words and terms that are liable to misconstruction, and I would call special attention to one point, as it is only on this point that there is likely to be any extended discussion. I refer to Article 6 under the head of "Compensation," and Limits of Gratuitous Service. This section reads: "The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But institutions endowed by societies, and organizations for mutual benefit, or for accident, sickness and life insurance, or for analogous purposes, should be accorded no such privileges."

Motion seconded.

D. S. WILSON: I am perfectly in accord

with the resolution and, of course, as a state organization we must necessarily adopt it. I would like to ask if there is any penalty prescribed in these Principles of Ethics?

THE SECRETARY: There is no penalty prescribed in the code of ethics. Under the recent action of the judicial council of the American Medical Association, any charge preferred against a member of this association would be initiated in his county society. If the county society does not take up the case, the council, which is the Supreme Court of the State association, may do so upon proper appeal and,if the charges are of an interstate character, an appeal may lie to the judicial council of the American Medical Association which corresponds with the Supreme Court of the United States. A charge of violation of the Principles of Ethics must be accompanied by evidence under our own by-laws, provided charges are preferred.

Motion put and carried.

C. G. Stephenson and A. D. Wilmoth presented the Report of the Committee on Reports of Officers, as follows:

COMMITTEE ON REPORTS OF OFFICERS.

Your Committee appointed to examine the detailed statement of disbursements made by our President, Secretary, and Treasurer for the fiscal year beginning September 1st, 1911, and ending September 1st, 1912, beg leave to make the following report:

We have examined each individual account, also the voucher check for same and find correct.

We have gone over the disbursements as a whole and find them correct, and in making this report desire to compliment the secretary on the full and complete, yet simple methods of bookkeeping, thereby enabling us to rapidly complete our work.

On motion of Dr. McChord, the report was adopted.

U. V. Williams was called upon for the report of the Committee on Anti-Tuberculosis Campaign.

THE SECRETARY: I move that the report of Dr. Williams be adopted as read, and in moving its adoption I want to make a statement that merits careful and prayerful consideration. The state of Kentucky has established a State Tuberculosis Commission with broad powers and duties. There is no question but that this is one of the most important things the state of Kentucky has ever done, and I believe it is important that every member or doctor in this State and every leader of public opinion get busy so that this commission shall not emasculate the purposes of the law, so that its wise provisions may be carried out to the fullest benefit. I hold, and I am satisfied that I am correct in taking that position, that it is absolutely impossible for any man who is not trained as a physician, who has not gone into the sick room where people are suffering and dying, who does not understand the human element in tuberculosis, to bring to bear any sort of influence in this campaign that will prevent tuberculosis, and, it seems to me, almost inconceivable that men and women of sufficient distinction and wisdom should for one moment hesitate to select a practicing physician who has had experience as such as the executive of the State Tuberculosis Commission.

I would like to move you, Mr. President, that it is the sense of this Association, and we recommend to Governor McCreary, who was the founder of the State Board of Health through one of his special messages, who is also founder of the Tuberculosis Commission, and who has taken a great interest in this movement, that a practicing physician of executive ability, be secured as the field secretary of this commission.

The line of demarcation is coming. Those who have been actively engaged in this work, as Dr. Wilson has, know that there is a line of demarcation coming. There are two classes of health workers in the United States, one class working along sociologic lines, who are getting wonderful statistics and having them printed in the newspapers. They are having a lot of remarkable things done and are doing great good, but there is not a single solitary soul preventing disease in the United States who is not preventing it because of the teaching and learning that come from the medical profession. If we want to go into the hills and hollows of Kentucky and get a Tuberculosis Commission in each county to take care of the sick and afflicted with this disease, they have to be treated by a physician, and it is just as easy to get an executive head for this commission in the person of a physician as to go to Colorado or to New York and get men that have been trained. It is not necessary to go outside of our confines to get such men. We not only have one or two, but we have a dozen men trained in this work ready to put their whole hearts into it and not simply for the purpose of collecting statistics, but for benefiting humanity at large. The difference between vital statistics, as ordinarily understood, and those which have been collected by Dr. Heizer, our State Registrar of Vital Statistics, is that nobody will read the former, but they will read the statistics of Dr. Heizer because he has made them *vital,* and if the Tuberculosis Commission is to be worth a nickel, we must push this element of vitality to the front. It is the only way to accomplish anything.

DUNNING S. WILSON: In seconding the motion made by Dr. McCormack, I feel the work can be carried out by making a physician, who knows his business, the executive officer. In the first place, physicians are going to be interested as individuals if a physician is able to present the conditions to them, and, at the same time, be able to discuss in a technical way things which may be brought before them. I should like to mention a case in point. Dr. Livingston Farrand is the executive secretary of the National Association for the Study and Prevention of Tuberculosis, but, at the sametime, his heart is in the work, and his statistics, in so far as their sociological bearings are concerned, are just as good if not better than if he was a layman in the true sense of the word. He is provided with assistants, and the State Tuberculosis Commission could be provided with a number of assistants, it seems to me, and the work should be correlated by a man who is a physician primarily committed to the work and understands the technical ground work that builds up the efforts towards the prevention of any disease.

The motion of Dr. McCormack was then put and declared carried.

COLLECTION BUREAU PLAN.

F. A. STINE: This plan is one of the most important things that has come before the House of Delegates. It was first started by the Los Angeles Medical Society in California, and was adopted by the California State Medical Society, and it has greatly assisted the was being done very badly in many instances physicians in systematically doing work that by collecting bureaus. It is done by them without expense to the State Association, and it is a matter of very great importance.

THE SECRETARY: I move the adoption of the report and the appointment of a committee by the President.

THE PRESIDENT: That implies the creation of a permanent committee?

Motion seconded and carried.

THE SECRETARY: Yes, sir.

THE PRESIDENT: I am going to ask Dr. Stine, Dr. Hohnstedt, and Dr. J. C. McCreary to serve on this committee.

ELECTION OF GUESTS.

C. W. HIBBITT, Chairman of the Committee on Election of Guests, made the following report:

Your Committee on Election of Guests begs leave to report as our guests the following: Dr. Crile, of Cleveland; Dr. Haggard, of Nashville; Dr. Fischer, of Cincinnati; Dr. C. A. L. Reed, of Cincinnati; Dr. B. S. Beebe, of Cincinnati; Dr. Joseph Goldberger, United States Public Health Service, Washington.

Your committee also desires to propose Dr. J. A. Witherspoon as a life member of our State Society.

Dr. Dunning S. Wilson offered the following resolution, which was adopted:

Whereas, The problem of public health is intimately concerned with Kentucky's development and requires for its solution the cooperative efforts of the teachers, ministers, press, social workers, and the State departments of education, agriculture, the Tuberculosis Commission, the State Board of Health and the doctors; be it

Resolved, That the President of the Society be instructed to appoint on a joint Conference Committee those who appeared on yesterday's program in cooperative health work, and a member of the Association appointed by the President, the President and Secretary of the State Board of Health, and the Commissioner of Agriculture, of which committee Governor James B. McCreary, representing the State of Kentucky and the Tuberculosis Commission, shall be named Chairman.

THE PRESIDENT: I will appoint Dr. Wilson, the mover of the resolution, upon that committee.

REPORT OF THE MEDICO-LEGAL COMMITTEE.

John J. Moren, Chairman, presented the report of this committee: (See Kentucky Medical Journal, Oct. 1, 1912, page 786).

In connection with the presentation of the report, Dr. Moren said: It seems the councilors have been teaching the doctors that our attorney goes out and handles all these cases of malpractice. That is not the intention, or at least, that is not our agreement. The attorneys we have employed have been only for counsel and not for active work out in the State unless absolutely imperative. We have only one case on hand where the local counsel failed in his duty to go to that case, and it is a case that involved a suit being brought in the Federal Court, and rather than have any mistake occur in that court, we are going to have all the counsel we possibly can in that case. It has been our rule that our general counsel do not take charge of the cases, believing that local counsel will do far better than city lawyers attending to these cases. Unfortunately, there is a prejudice against the city attorney the same as there is a prejudice against the city doctor, consequently we have avoided sending lawyers out in these cases. Let them rely upon local talent, and they cannot bring up questions that have been brought up without bringing men from the outside and instructing the local doctors how to testify. That is a hard stumbling block to overcome. It is a question with us all shall we employ our attorney with the intention that he shall take charge of every case that occurs, or shall we continue to employ local counsel where dispute occurs. That is for the House of Delegates to decide. The compensation of our general counsel is $300 a year. This past year he gets $300, and I declare to you, I would dislike to do what he has done for $300. Of course, if he handles cases in the city he will receive compensation for that in addition. Another question comes up: Suppose an institution is incorporated, and the principal man connected with it is a member of our State Association, suppose he has a malpractice suit brought against the corporation and not against him, shall we defend that suit? We have got cases of that kind pending right now. If it is brought against the doctor personally, we will defend the suit, but if it is brought against the corporation, the question arises whether or not we shall defend it. That is for you to say.

Another point I have been advising the doctors, and I honestly believe it, that we have better protection than any insurance company in the United States can give them. (Applause.) I am not saying that because I am connected with the committee; but in three instances in this State we have taken charge of malpractice suits which the insurance companies turned down. We have no technicality. The question is whether this doctor is a man of good standing, and whether he has a just or unjust suit. In about 99 cases out of 100 the suits are unjust, and we do not turn them down. Suppose a doctor comes to me and says, Moren you told me not to take an insurance examination. Suppose that he happens to get into trouble; suppose he happens to get into a just malpractice suit, I am doing wrong in advising the boys to drop their insurance, but I believe the majority of cases generally are unjust, and I believe that our protection is equally as good if not better than the protection of an insurance company, and consequently I do not hesitate to tell them to drop their insurance. You saw in the report what was said about New York state. It is a question of whether the insurance companies frame these suits. Somebody is doing it. It is becoming prevalent all over this country. Every state is reporting an increased number of malpractice suits, and it is getting to a point where we have to be on our guard all the time or have it understood what we promise and what we can look for, and if any bad results, it is not our fault. They are jumping on institutions, too, they are finding flaws there or they think they are. Just as quick as a doctor gets a suit brought he thinks he must employ a dozen or half a dozen lawyers. I do not believe that is right. If you have got one good competent lawyer he will do just as much good as three or four.

Another point: Just as quick as a doctor gets sued he goes right square up in the air, and some of the best men here whom we think would be good scrappers and put up a good fight, go right up like a sky rocket, more so than those we would expect to give up in a fight of this kind. It is not good practice to employ a whole lot of attorneys, as one good man can do the work and do it just as well as two or three.

As to the question of defending every suit, these suits are turned over to the attorneys and some of them are never investigated. Our attorney will not touch a case until I have told him to take hold of it. I find out, if possible, whether this suit is just or unjust. Mr. Hines will not take charge of a case or give advice until I tell him to do so. In the majority of cases that have occurred so far, I believe I am perfectly competent to say whether they are just or unjust.

As to the question of claims and counterclaims, the best way to arrange them is in this way: If a suit is actually brought against a doctor for malpractice, of course we ought to investigate it and if it is all right defend it, but suppose it is brought simply as a counterclaim to get rid of a bill and there is no actual malpractice or anything of that kind, I believe that ought to be left to the doctor. It is a question of his bill more than his services to the patient resulting in unpleasant complications. I believe that would be the best way to handle it. However, nearly every one of these cases has been found to be different. There are no two cases alike.

I want to inform you of one thing I am trying to do, and that is to bring all of the committees of the different State Associations together at the American Medical Association. I have been in correspondence with the gentlemen in Chicago and they report back to me it would be a good idea, and something that would possibly result in good for the State to have the representatives of the different states meet at a meeting of the American Medical Association, and then have a regular experience meeting. I hope I will be able to carry that through. That is all the report I have to make.

There is one question we would like to have answered. It is this: Shall we send our general counsel to all cases?

R. C. McCHORD: The great trouble in handling these malpractice cases is the inexperience of the local attorneys, and if it is possible, I believe it would be best for the general counsel to handle all cases if we can make a satisfactory arrangement with him to do that in place of employing local attorneys, because they are inexperienced in these cases, and it takes a man of experience to handle them. If we can make a satisfactory arrangement with him to attend to the cases locally, it would be much better than employing local counsel.

W. B. McCLURE: I take issue with Dr. McChord. I do not believe it is customary, in the first place, for foreign counsel to go into any community and try a case without having associated with him some local attorney, for obvious reasons. He knows nothing of how the jurors may be called, whereas the local attorney can practically say, we accept the juror or reject him. That is almost imperative I think.

HUGH D. RODMAN: Dr. McClure has said what I was going to say. I do not think it is wise or successful to defend these malpractice suits without the aid of local attorneys under any circumstances. Every county society ought to employ in cases of this kind the best local attorney. He should conduct the case with the advice of the general attorney. We have in our county lawyers well qualified along that line, and we ourselves would not be afraid to trust them, and every county, I am sure, has lawyers that would not be afraid to trust to defend any cases of that kind. For that reason, a strange attorney knows nothing of the people whatever. He knows nothing about selecting a jury, and I think it would be an impossibility for a strange attorney to select a jury that would do a doctor justice. I think we ought to employ an able attorney, as Dr. McClure has correctly said, and we should employ the best attorney we can secure in the county.

J. J. MOREN: I have here reports from the different states as to the method of employing their attorneys, and I will state that the majority of them do not send their general counsel to fight these cases.

D. S. WILSON: A thing more vital than to have general counsel look after each case is whether we have confidence in those managing the affairs of our brother practitioners who are being sued, and each case should be a law unto itself, and therefore I should hold, in order to dispose of this question, that the chairman of the Medical Defense Fund should be given the authority to exercise his judgment in regard to any case as to whether local attorneys shall be employed or the general counsel himself shall be employed.

H. D. RODMAN: I desire to second that motion.

THE SECRETARY: The function of the general counsel is the same as the function of a consulting physician. He is not expected to attend to the case. There are conditions that arise sometimes in which the advice of the general counsel on the ground is necessary. Dr. Moren and Mr. Hines after consultation can decide those cases without the least particle of trouble. There are other cases not so situated as in Nelson county, yet I want to say to you that nothing is more important than that we get rid of the idea of local pride and local attachments for certain men in selecting attorneys when a malpractice suit comes up. When you want a doctor you want the best doctor that you can possibly get, one who knows the most about the thing you wish him for, and you do not want a relative or friend under those circumstances. When you want a lawyer, you want the very best you can secure. There is one thing of the utmost importance in regard to that. Dr. Moren is so nice in what he says about it, that he has not made it sufficiently plain. We not only want to get the best lawyer in every county, if an unjust suit is brought, but we do not want to be stung by some fellow who is a doctor's friend. That has happened. Dr. Moren suspects that it has happened. I know it has happened, and we have been stuck or stung. The attorneys ought to be well paid, but Mr. Hines knows that as well as anybody. A lawyer, like a physician, who is acting as a consultant, should be paid a reasonable fee. Dr. Moren has talked about the fee, and if he will say to Mr. Hines that we are going to pay the local attorney what is right, and no more than that, I think they will be satisfied. They will have confidence in his judgment in any case and there will be no difficulty about it.

THOS. R. FINLEY: It seems to me, this defense fund is a foundation for the lawyers to charge more for their services. There is no question about that. We certainly ought to have local lawyers or at least one. If we have a state lawyer, he will naturally be the consultant and help to make up the case and be there, if necessary, but he should be rather in the background. If we have a trial in our local counties and no local talent is employed there, they will hardly let an outside lawyer come in. They would brow beat him and the result would be we would be up against it.

The motion of Dr. Wilson was put and carried.

J. J. MOREN: Shall we protect a corporation in which a doctor is interested?

D. S. WILSON: I move that we shall not protect the corporation.

Motion seconded.

THE SECRETARY: When you have a hospital in every county in Kentucky erected or in process of erection, it will put a different light on this matter. In a great many counties these hospitals are owned by the county societies. In a great many other instances they are owned by five or six doctors. Where a corporation is owned and controlled by physicians, arrangements can be made so that the defense can be made available for them. Suppose three physicians in Owensboro associate themselves together and erect an institution for the treatment of diseases of the eyes, if that institution, or if anyone of its members is sued for malpractice unjustly, they have no recourse except to carry insurance and the insurance companies require them to carry in addition to insurance for the institution, individual insurance. It seems to me, the committee could be authorized to charge a reasonable sum for the protection of institutions the same as insurance companies do, but these insurance companies charge five times as much for each physician and for the superintendent of the institution as they charge for each doctor, that is, if the fee is $25 for the hospital, where there is one doctor they charge $125 for the protection of the hospital. On some such basis as that the committee could be authorized to undertake defense against unjust malpractice suits brought against institutions controlled by medical men. No institution that is erected for pecuniary profit would be defended, nor no hospital as such that is carried on as a profitable enterprise, because the doctor who owns one knows he has been mulcted already, and he does not have to be sued to get soaked. You take a hospital that is incorporated and owned and controlled by physicians, it seems to me the committee could be empowered to make, after consultation with the attorneys, some reasonable arrangement whereby it would be within the power of the Association to defend them.

DR. MOSBY: There is one trouble that comes up along the line Dr. McCormack has mentioned, where there is a corporation, and that would be as to the membership. This defense fund is for defending members of the Association only, as I understand it. When you go outside you would take in individuals who are not members of the Association, and therefore we could not consistently or justly defend them.

THE SECRETARY: I move the Medico-Legal Committee be authorized to fix such a fee as will permit every member of the staff of a hospital or a stockholder, if he is a member of the Association in good standing, to be defended against unjust malpractice suits for such an annual fee as may be fixed by the general counsel. Perhaps I had better word the motion in this way: I move that the Chairman of the Medico-Legal Committee and our general counsel be authorized to arrange such an annual fee as they may deem sufficient, upon payment of which a corporation, a hospital or sanatorium, entirely owned and controlled by doctors in good standing in this Association, may be defended against unjust malpractice suits.

Motion seconded and carried.

J. J. MOREN: Now, comes the question of dues. Shall it remain 50 cents or one dollar?

W. B. McCLURE: I wish to correct what I consider an erroneous impression conveyed by the committee. I am sorry our committee seems to convey a wrong idea. We have no medical defense fund. If I remember correctly, we simply increased the dues of members to $2.50 with the understanding that the increase was to cover the expense of the medical defense.

J. J. MOREN: That the 50 cents was to go to the medical defense fund.

W. B. McCLURE: No. There was no definite sum set aside for the defense fund; that the additional increase was to go to the Treasury to help pay the expenses of the Association, and part of the expenses of the Association went toward the payment of the secretary's salary and part towards the defense of these malpractice suits. There is no independent fund.

THE SECRETARY: The reason it has been considered as the medical defense fund was that the subscription to the JOURNAL is $2.00, and practically that amount (50c) was set aside for the medico-legal committee.

W. W. RICHMOND: I want to say, I attended the meeting when the medical defense was organized several years ago, and I paid $5 toward medical defense, and then I was told that the amount was reduced to 50 cents. My understanding was and has been that this 50 cents went into a separate fund.

THE SECRETARY: The $5.00 went into the general fund and the 50 cents does too.

J. S. LOCK: When this question came up I paid $5.00 towards a general medical defense fund. This matter came up before the council, and when it was reduced to 50 cents I thought it was to go into the medical defense fund and be a separate fund. I opposed it at the time because I didn't believe that the amount was sufficient to carry on this branch of work for our association. I still believe it is not sufficient, and I believe from the reports that you are going to see that it is not sufficient. While we have, I understand, $5,000 in the treasury at present, I do not believe we will have sufficient money to defend all of these cases.

THE PRESIDENT: What action will you take on this question?

W. B. McCLURE: Understanding that this report was published in the JOURNAL, and was referred to in the Secretary's report made on Monday, I move that the per capita assessment in the Association (not the medical defense fee) in the future be $3.00.

Motion seconded.

THE PRESIDENT: Shall we make i $3.00?

J. S. LOCK: I think it should be made $1.00 for the medico-legal committee. It has been my impression as councilor that it has always been $2.00 for membership in the Association and the JOURNAL, and 50 cents for the defense fund. From the reading of the by-laws I find that I am wrong, and I believe the majority of members of the Association have been misinformed in this regard. It is a good thing to bring it out here. I simply want to raise the dues to $3.00 or the membership fee.

W. W. RICHMOND: I see where I am going to get into a little trouble. However, I am heartily in favor of raising the membership fee to $3.00. I have preached all over western Kentucky for the last ten years to county medical societies, and I have had invariably to stand up before a lot of intelligent doctors and explain to them where the $2.50 went. These doctors are very good business men, and they want to know where this money goes, and I have told them that $2.00 went for the JOURNAL, and the other 50 cents for defense against malpractice suits. Now, it is a hard matter to rub that out with members of the county medical societies. It is consoling to know that we can draw on the whole fund if it is necessary. It is well to let that be understood before the county medical societies. If it is understood that the $2.00 is for the membership fee and the 50c for the medical defense fund, it will give greater satisfaction than to make the change now.

THE SECRETARY: I want to make one explanation. I have been a little surprised at the discussion. There has not been one single nickel expended by the officers of this Association that the office check has not been printed in the JOURNAL. It is perfectly evident that very few if any besides the auditing committee have taken the trouble to go over these accounts or vouchers and see for what purpose the money was expended. I want to tell you where the money has been going. If these gentlemen of the House of Delegates have not read it, then nobody has read it. If you do not know where this money is going that is transferred to Dr. McClure, it is your own fault. Dr. McClure must have written some 1500 or 1800 checks paying out money for different things. If there is any member in the Association who does not know where the money has gone, it is because he cannot read printing or he won't read it.

W. B. McCLURE: In addition to that, these good people Dr. Richmond spoke about as being good business men in their district evidently do not read the JOURNAL. If they did read the JOURNAL, they would see that the by-laws provide for this $2.50 and they tell us what it is for. (Here Dr. McCormack went over and explained in detail each of the various items for which money had been expended, all of which is printed in the October 1st, 1912, issue of the KENTUCKY MEDICAL JOURNAL.)

W. W. RICHMOND: All of this discussion, it seems to me, is entirely irrelevant. (Laughter). Let us make it $3.00 or leave it as it is. I want to say to Dr. McCormack, that I read the JOURNAL as religiously as I do my bible, and there is no question as to the disbursements, or when and how the money has been spent. Dr. Moren was under the impression that this was a separate fund. He told me so.

J. J. MOREN: I plead guilty. I thought this 50 cents was to go to the medical defense fund. I did not know that the Constitution read as it does, and I would make the suggestion that we continue the coming year at $2.50, because this additional 50 cents might impose quite an obligation on some of the members. I hope we have money enough in the treasury for next year, and I will make this statement, that I will see no man is left undefended. I will see that he gets protection all the way through until the next meeting of the Association. (Applause.)

D. S. WILSON: This is not the psychological moment to raise the dues of the State Society.

A vote was then taken on raising the dues to $3.00, and the motion was declared carried.

O. P. NUCKOLS: We have several members living across the state line and they have been paying regular dues with the understanding that they were full members and entitled to medical defense. The medical defense branch, however, has refused to defend one or two cases. The question I would like to have answered or to find out is, what shall we say to those members. Shall we say to them they will be defended or not, or will we fix a different price for them?

LILLIAN H. SOUTH: In connection with the subject of physicians who live on the border lines and practice in Kentucky and send specimens to our laboratory to be examined, we consider them physicians of Kentucky, and they have every advantage. They may be physicians who practice in Kentucky, but live in Tennessee.

W. B. McCLURE: As I understand it, a suit for malpractice brought against a man living in Tennessee would be brought in his own county. It seems to me, one of the purposes of the Association is that we shall not go into a neighboring state with our attorney to defend a man for malpractice. If a malpractice suits brought when he is practicing on the Kentucky line by a Kentuckian, I believe without any kind of compromise we would have to defend him. We would have to defend all suits for malpractice brought on Kentucky soil if they are members of this Association.

THE SECRETARY: From a medico-legal standpoint, there is a peculiar situation in Dr. Lock's district. These gentlemen who are familiar geographically and geologically with Bell county know that the lower part of it is shaped like a funnel. One side of the top of the funnel is over in Tennessee, and men living in the mining camps cannot go into the county seat except by going a long way down on the railroad. They are denied the benefit of membership. They have to go to Middlesboro, and at their request I took up the matter with the Tennessee State Medical Association and the House of Delegates, and it was decided that as soon as the Tennessee State Medical Association would transfer their membership to Kentucky, we would accept them as members. They were accordly transferred and are now members in good standing of the Kentucky State Medical Association. They have paid their annual dues, and this was all done in good faith. There is another side of the question. Any member, for instance, would have the right to appeal to the Judicial Council of the American Medical Association and would be defended if he made such an appeal. I believe we ought to accept every man that needs the benefits of the Kentucky State Medical Association.

J. S. LOCK: In these cases these men have been members of the county societies for two or three years, they have paid their dues in good faith, and have made excellent members. It would be unjust, it would not be right, to turn these men down now. We ought to do something to defend them. I shall insist as councilor of that district that this matter be taken up and these men given the defense they are entitled to. If we do not live up to our promises, what are we going to do?

I desire to make a motion to the effect that these men be defended.

R. C. McCHORD: I second the motion.

(Here the Constitution was read on this subject.)

J. J. MOREN: If we defend one man, we ought to defend all of them.

J. S. LOCK: If we promise them the protection of the State Society, we ought to give it to them. We promised it from this body. As councilor, if I had not been given authority by this body, I would not have done it. I feel my responsibility to these men.

O. P. NUCKOLS: We must either refuse to accept these men or not take their money. If we take their money, we must give them the same privileges that every other member gets for the same amount of money. They are members of the county medical society, and by virtue of that they are members of the Kentucky State Medical Association.

J. H. HENDREN: As President of the Bell County Medical Society, I am familiar with this particular question, and I will say to you that across the line in Tennessee there is no medical society in that county. In order that these gentlemen might get recognition in the national body, which they wanted, this Association asked the State of Tennessee to waive its rights, which it did, and the state of Tennessee allowed these men to become members of our county organization, which enabled them to become members of the State organization, and then join the national organization. The question is not what we are going to do in the future, but what we are going to do with those already before us. One of our members has become entangled in a malpractice suit. He is a member of this society; he has paid his dues for the last four or five years, and is a member in good standing; a man of unquestionable character. He bought something and paid for it in advance —protection. What are you going to do with him? It is not a question of what we are going to do next year, but what we must tell these men of this man. We bring this case up as an example in order to take back an answer. If we have admitted this man; if he has paid his dues, which he has done, he has paid for this thing which we call protection. I cannot see what we can tell this gentleman when we go back home.

HUGH D. RODMAN: I move as an amendment that the motion made prevail in this particular case, and that the House of Delegates shall fix the matter permanently as to whether in the future we shall defend nonresidents or not.

The amendment was seconded and accepted by Dr. Lock, and the original motion as amended was put and carried.

J. J. MOREN: How shall be handle counter claims? Will they be left to the local counsel? This raises the question of bringing counterclaims to get rid of a doctor's bill. I suggested that we defend those cases where an actual suit for malpractice has been brought, and not simply a counterclaim to beat a bill.

THE SECRETARY: I move the medicolegal committee be empowered to act in such cases.

Motion seconded and carried.

J. J. MOREN: There is a suggestion from Mr. Hines that it would be wise for the Association to adopt a rule for the committee not to pay more than $50 as attorney's fee in such counter claims.

W. B. McCLURE: The statement of Dr. Moren in which he says we ought to get the best attorneys in the community, and the statement of Mr. Hines are paradoxical. In our community the best lawyers have a rule something like this, that they will not handle cases where the fee is less than $100. We might eliminate the best lawyers if we should pass a resolution limiting the fee to $50. In other words, we select the best man and pay a fixed price for his services.

THE SECRETARY: In order to cover the matter, I move that the members of the State Society be informed that in case of a counterclaim for malpractice against a suit for medical services, that they shall make no arrangement in regard to attorneys until the Medico-Legal Committee has been consulted, and that in the future the Medico-Legal Committee shall be empowered to fix the fee in such cases.

J. J. MOREN: It is not an easy job to pass on these questions. In leaving it to one man I feel the responsibility of my position, and do not want to make a mistake for your sake. I want to do the best I can for you all. If I got instructions from the House of Delegates, I would feel I had something back of me other than my individual opinion. There is one other statement I desire to make. For instance, if you are sued and Dr. Smith is in that case, do not be afraid to go to Dr. Smith and talk to him. At this meeting I brought one or two members together whe were afraid to talk to each other, and come to find out the doctor on the other side was his best friend. If you do not like to talk to the doctor yourself, let some friend get you together, and in many instances you will find there is no need for a malpractice suit.

THE PRESIDENT: The report of Dr. Moren as amended is before you. What will you do with it?

THE SECRETARY: I move it be adopted as amended, and that a rising vote of confidence in Dr. Moren be given for his splendid and self-sacrificing work in the interest of the profession.

This motion was seconded by several delegates and unanimously carried.

The secretary presented a number of bills which had been approved by the council, including accounts of the president, president-elect, secretary-editor and his assistants and for the current expenses of the session, and on motion, duly seconded and carried, the secretary was instructed to pay them. He was also authorized to pay the expenses of the annual session when bills for same had been approved by the Council.

HUGH D. RODMAN: We should appoint a Committee on Constitution and By-Laws as they conflict, and I move that the House of Delegates appoint a committee of three, all located in one town or city, so that they are in close proximity to each other, to draft a new constitution of by-laws and report at the next annual meeting.

Motion seconded and declared lost.

THE SECRETARY: I move that the thanks of the Association be extended, first, to Dr. Powell and the officers and congregation of the First Christian Church, of Louisville, for the use of their splendid building, and the recognition of this Association by this great Christian body as co-workers in God's work. Second, I move that a vote of thanks be extended to the Chairman of the Committee on Arrangements, the President and Secretary and the other officers of Jefferson County Medical Society; to the Chairman of the Committee on Entertainment, Dr. Frank, and Chairmen of the sub-committees, and to the members of the medical profession of Louisville for their splendid entertainment, which will always be remembered as one of the best and most remarkable we have ever had in the history of the Association. Third, I desire to move a special vote of thanks to the Press of Louisville for their fair, impartial and able accounts of this meeting which will do so much to carry abroad in the State the character and purpose of the work we are doing. Fourth, I wish to move that a vote of thanks be extended to Dr. Fischer and Dr. Crile for their special addresses and for coming to the State as our guests. Fifth, I move that a vote of thanks be extended to our President for his fair and impartial rulings, and further to extend to him our cordial appreciation and congratulation that he got his program through. (Applause.)

These motions were seconded by several delegates and carried unanimously.

As there was no further business to come before the meeting, on motion of Dr. McClure, the House of Delegates then adjourned *sine die*. ARTHUR T. MCCORMACK, Secretary.

Lactic-Acid Bacilli in Local Treatment of Puerperal Infection.—Brindeau declares that cultures of lactic-acid bacilli are valuable for sterilizing any tissue, not merely the intestines alone to which their use hitherto has been restricted. It is logical, for lactic acid is a powerful and nontoxic antiseptic. The cultures prevent the development of pathogenic species and promote leukocytosis, while the lactic-acid bacilli never become pathogenic. The cultures can be used to sterilize any septic or putrid wound, but their main field is for infected vulvoperineal tears after delivery. He mixes the contents ef a culture vial with sterilized milk sugar and injects the soft mass into the vagina and applies wicks of gauze directly to the wound, renewing the dressing three times a day for two days. The action is quicker the more concentrated the culture, so he centrifuges it to collect the bacteria for an urgent case. He gives the details of fourteen cases of puerperal endometritis, fifteen of vulvovaginal tears, seven of mammary abscess, four of postoperative fistula, three of vaginal hysterectomy, two of puerperal peritonitis, one of the Porro operation and four of other operations, all confirming the efficacy of lactic-acid bacilli in cleansing, sterilizing and promoting healing of infected wounds.

KENTUCKY

MEDICAL JOURNAL

PUBLISHED BI-MONTHLY

BY THE

KENTUCKY STATE MEDICAL ASSOCIATION
(INCORPORATED)

EDITED BY

ARTHUR T. McCORMACK, M.D.

UNDER THE SUPERVISION OF THE COUNCIL

VOLUME X.

JANUARY, 1912 TO DECEMBER, 1912, INCLUSIVE

BOWLING GREEN, KENTUCKY

1913

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COUNTY SOCIETY REPORTS

Campbell-Kenton—The regular monthly meeting of the Campbell-Kenton County Medical Society was held on the evening of September 19, 1912, with the President, J. G. Furnish, in the chair.

The minutes of the previous meeting were read and approved.

CASE REPORTS:

X-ray plate of "Hour-Glass Stomach," was shown by **Dr. Rankin.**

On motion, made and carried, Drs. Rockhill and Dunham, of Cincinnati, Ohio, were given the privilege of the floor.

Application of C. N. Heisel was read and on motion, made and carried, the rules were suspended and a ballot ordered spread. Dr. Heisel was unanimously elected to membership.

J. R. Meek extended to the Society the use of the Anti-Tuberculosis League quarters as a meeting place.

W. G. Brown read a paper on "Relative Value of Early Tests for Tuberculosis.' Discussed by Drs. Rockhill, Dunham, Meek, Nelson, Anderson, Rankin, McCollum, Furnish, George Herman, and Jos. Back.

Number of members present, twenty-eight.

Adjourned to meet October 17, 1912.

J. A. RYAN, Secretary.

Campbell-Kenton—The monthly meeting of the Campbell-Kenton County Medical Society was held on October 17, 1912, with J. G. Furnish in the chair.

The minutes of the previous meeting were read and approved.

Application of C. A. Sutton, by demit from Pastuatune-Camden-Dave County Medical Society of North Carolina, was received. Dr. Sutton was admitted to membership.

Application of R. G. Boehm was referred to the Board of Censors.

A motion by Dr. Merriam, that the present Program Committee be reappointed for the ensuing year was carried.

Moved and carried that the Publicity Committee, if they deem it feasible, make arangements to entertain speakers from the "Speakers' Bureau" as outlined by the A. M. A.

J. A. Hohnstedt read a paper on "What is Rheumatism," Discussion by Drs. Newman, Caldwell, Brown and Bonar.

There were twenty-four members present.

Adjourned to meet November 21, 1912.

J. A. RYAN, Secretary.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 2 JANUARY 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

BILIARY DRAINAGE.

By C. B. SPALDING, Louisville..

A too frequent inadequate knowledge of the anatomy, and complicating pathology of a region, often, either throws the operator completely off the track, or is the source of delay, sufficient to bring about results, at least discouraging, if not detrimental to surgery. With this idea in mind, and considering the vast importance of perfect drainage, from these organs, the liver and the pancreas, the necessity of the drain, normal material in the intestinal tract, and the too frequent interference with which; I have chosen this subject, trusting that a discussion may develop materially anything I might offer.

The comprehension of anatomy opens up to us a view of a mechanical arrangement; the perfectly nourished, perfectly drained human machine; such as cannot be approached artificially yet when once blocked or damaged, must revert to outside mechanical aid and well-timed artificial assistance, that it may regain an approximately normal functionating state.

Introduce the finger, through the foramen of Winslow in the normal individual, we find within our grasp that all important band, containing three vital channels; the common duct, the hepatic artery, and the portal vein, lying between two layers of peritoneum. Just above the grasp of the finger, are the cystic and hepatic ducts, while below the finger comes in contact with the duodenum and pancreas, en masse. So the key to the situation is at once obtainable and positive, a vantage-ground, rendering the examination of adjacent structures at once rapid and final. The common duct is usually to the right in this band, being formed above by the convergence of the cystic and hepatic ducts, which usually run along side by side, for one quarter of an inch or more, before forming the common duct, which proceeds along its route, dipping under the duodenum and pancreas, being joined just before it terminates, by the duct of Wirsung, in a small dilation, the ampulla of Vater, which empties in turn, by a much smaller lumen, into the second portion of the duodenum. The common duct, in the absence of stone, must be distinguished from the hepatic artery by the pulsation of the latter, and from the portal vein by the sense of touch; it giving a more dense, distinct, cordlike feel, whereas the vein is soft and very compressible. However, where such a differentiation is uncertain, the use of the aspirating needle is permissible.

It is in this small peritoneal covered band, then, that we must find our portal vein, carrying to the liver, blood from almost all of the abdominal and pelvic portions of the alimentary canal, as well as from the pancreas and spleen. Also, we find the hepatic artery carrying its supply of arterial blood to the liver, and likewise, with its flow exactly opposite to these two structures, we find the common duct, as above described, acting as the functionating sewer of the liver.

The physiological necessity for the unobstructed passage of bile into the intestine is amply shown by Dr. Krehl, in his Clinical Pathology; "If bile be excluded from the intestines, the absorption of carbohydrates is not affected and the absorption of proteids is only slightly lessened; whereas, on the other hand, from 60 to 80% of the fat taken in the food, escapes absorption as compared with the normal of from 7 to 11%."

"In the first place, the emulsification of fats is favored by the presence of bile; and in the second, the bile accelerates, the fat-splitting action of the pancreatic juice eight fold and even more. There appears, therefore, to be sufficient, physiological explanation for the effect which follows an exclusion of the bile from the intestines."

It is simple enough procedure to open the abdomen, in the absence of adhesions, and remove stones from the gall bladder and drain it; but who can say when such a simple condition only, is to be found.

Dr. Maurice Richardson (Boston, in *Surgery, Gynecology and Obstetrics,* of May, 1912), says that; "The diagnosis of the exact lesion in the upper abdomen, desirable as it may be regarded, cannot be made. The only thing to be determined is the indication for exploration." So it seems that the study of the many and varied complications, is most important, especially the more frequently found ones.

The evacuation of stones impacted in the tortuous cystic duct, even, is not always an easy operation, yet the failure to succeed thoroughly may defeat entirely the purpose of the operation. The cystic duct must admit of free drainage, or be sacrificed, and along with it, the gall bladder, to prevent subsequent attacks of pain, due to a mucous distention.

So, stricture of the cystic duct from whatever cause, gangrene, operable malignancy, and inflammatory conditions of the gall bladder, where there is a marked denudation of peritoneum, call for removal. However, not always immediately, but secondarily after the acute condition has been relieved and the patient has regained sufficient resistance. Too often death is the result of an effort to clean-up completely during an emergency operation.

Dr. B. B. Davis, (Omaha, Neb., in *Surgery, Gynecology and Obstetrics,* July, 1912), reports a series of 234 cases of gall bladder disease, in which 150 contained stones, and in 84, cholecystitis was evident, at the primary operation 176 were drained and 58 removed, with an end result of only one in the cholecystectomy series, that had secondary adhesion troubles, while 11 of the drained series came up for secondary operation. While 25% had varying discomfort from one to six months.

This report should not be taken as indicating preferable results from cholecystectomies, but on the other hand, should serve to show how many of these gall bladders are saved, and how few require the more final operation.

A stone in that portion of the common duct which overlies the foramen of Winslow, in the absence of adhesions, may usually be removed with comparative ease by using the stone as a guide. But should the stone lie within the retro-duodenal portion of the duct, the condition becomes at once difficult and dangerous, if attempted at all, in the presence of an acute and inflammatory condition. The two usual routes of attack are; either by dissecting the duodenum, together with the edge of the head of the pancreas, up from its outer border; thus not damaging the intestine and its blood supply, the superior and inferior pancreaticoduodenal arteries, which approach the intestine from the pancreatic side; and at the same time exposing the last portion of the common duct, as well as the ampulla of Vater; or, it may be approached by longitudinal incision. The first of these routes, seems preferable usually, except in those cases where the stone is lodged directly within the ampulla, or partly so and partly in the duodenal lumen. Here, the intestinal route is not only easier, but offers far less trauma to the duct, in handling the large stone.

James E. Thompson, (Galveston, Tex., in *Surgery, Gynecology and Obstetrics,"* September, 1912), has collected nine cases of complete obstruction of the duodenum from impacted stones, along with three cases of partial obstruction. Some of these cases were due to escape of stone from the biliary track, through a fistulous passage, while some were due to the stone being lodged, in an effort to pass through a fistula from the gall bladder, remaining partly in the gall bladder and partly in the intestine. He also reports one case of obstruction of the duodenum from without its lumen, by two large stones in an adherent gall bladder. Such complications, as in these cases reported, necessarily require the opening of the intestine. The repair of the fistulous opening between the gall bladder and the intestine should depend upon the general condition of the patient, and whether or not the common duct is capable of functionating. Should this duct be stenosed, then nature has performed its part well, and the fistulous opening should be let alone. In the event of a patulous common duct, and a fair general condition, a cholecystectomy, with closure of the intestinal wound, is indicated. However, if the general condition of the patient is bad, and it usually is, where such a local condition has developed, then remove the obstruction, and secure drainage, and do the repair work at a later date. Two operations are always preferable to one death.

Dr. George Brewer, (New York, *Surgery, Gynecology and Obstetrics,* May, 1912), in an article entitled "Some Observations upon the Surgery of the Biliary Passages," reports the findings in a personal series of 175 cases. His article confines itself largely to a review of his mistakes in diagnosis, and to the untimely results, including 26 deaths; with an idea of attempting to ferret out the causes of death, and what per cent. might have fared better with different methods. In most of these cases he finds that he attempted to do too much at the primary operation. I think such a report is to be highly commended, for the good it may do others, and in view of the fact that we too frequently report our successes, and omit our fatal cases.

A frequent source of biliary obstruction may be classed as from outside interference, or obstruction from without the duct. Pressure from tumors of the pylorus, or, any of the adjacent viscera; also adhesions caused from inflammatory processes, from whatever source; any of which may press upon or kink the small lumen of the common duct, so that the outflow of bile is partially or completely interfered with. Not infrequently there is found an obstruction due to some of the conditions resultant from enteroptosis. Such as movable kidney, pulling forward the parietal peritoneum until there is sufficient tugging at the common duct to interfere with the biliary outflow. Occasionally a very freely movable liver will bring about the same condition. All such possibilities must be borne in mind and properly met, and dealt with when the abdomen is open, if biliary drainage is to be rendered thoroughly proficient.

At the distal end of the common bile duct we find that common receptacle of both bile and pancreatic secretion, the ampulla of Vater; representing the union of the two ducts, the one from the liver, the other from the pancreas; with a common opening into the duodenum, which may be the source of a vast amount of damage to either, or both of the drained organs. Suppose we consider for a moment the frequency of infection of the biliary tract with all the complications and results, with which every one is familiar. How many of these get their origin directly through this little ampulla, by means of its intestinal opening, is hard to estimate; yet unquestionably many of them. No one questions the frequency of appendiceal infection directly from the caecum, yet often the opening is no larger than that which drains the ampulla of Vater. Emptying into this ampulla is also the drainage duct of the pancreas, the duct of Wirsung, beginning near its small tributaries, finally emptying with the common duct into the ampulla of Vater. The accessory pancreatic duct, the duct of Santorini, is so variable and has so little to do with the pancreatic drainage as to render its consideration of little importance. The opening of the ampulla into the mucous membrane of the duodenum, is quite small, in fact so small as to render its location from within the lumen of the intestine, almost impossible. I have taken that section of the abdomen from the cadaver, opened it, and searched carefully with a probe for this small opening, and rarely have I been able to find it, without resorting to the common duct, as a guide. With such a small opening to deal with, how easily might it be blocked by a slight swelling of the mucous membrane, or a small stone situated just at the opening, causing a damming back of the two secretions; or on the other hand, a flow of the bile, and probably infected bile, directly into the pancreas with all the subsequent and rapid destruction of the pancreatic structure, with which it has been found so hard to cope. The same process may, in a similar manner, cause the damming back of the pancreatic fluid into the common duct, with grave results, yet not so alarming as the effect of that upon the pancreas, because the duct of Wirsung is almost entirely associated throughout its whole length with pancreatic structure, and retained infection must of necessity, penetrate into the gland by the smaller branches of the large trunk, which drain the loosely held lobules. Infection, with rapid swelling, once having gained headway in such a gland; rapid death of tissue must necessarily follow, resulting in the large sloughing mass almost directly free in the peritoneal cavity, since the pancreas has no distinct capsule, and the lobules are only loosely held together by their ducts, and a thin surrounding cellular tissue. This phase of the condition is but rare, yet almost always fatal, and must be relieved at the very earliest symptom, if at all.

Dr. John B. Deaver, of Philadelphia, says that; "Acute pancreatitis is usually a sequence of disease of the biliary apparatus," and further that; "The only way to operate for pancreatitis it to operate before you have pancreatitis." So it appears that symptoms referable to infections of the biliary drainage tract must not be trifled with; for when such an infection exists, while the symptoms may seem not to demand urgent action, so long as the infection is confined to the biliary drainage tract, yet one cannot say when it may back up, as it were, into the pancreas, with the rapid and fatal results referred to.

Once the infection reaches the pancreas, the outlook is gloomy and probably out of the domain of surgery. Dr. Maurice Richardson, of Boston, (*Surgery, Gynecology and Obstetrics*, May, 1912), in a paper "Surgical Diseases of the Pancreas," states that; "The rarity of successful operation upon an accurately diagnosed, acute lesion of the pancreas, is so great that for practical considerations these acute infections are almost beyond the reach of successful surgery.''

It may have been the fortune, or misfortune, of but few of us to have seen such a condition, yet if we can picture the destruction in an infected parotid gland which we all have probably frequently seen, and consider such a vile sloughing mass, in a similarly constructed abdominal gland, without the protecting capsule, as is found surrounding the parotid gland, formed by the cervical fascia; it would not be difficult to appreciate the condition found in such a pancreas. Had the pancreas a dense capsule it might serve as a warning as well as a protection to the abdomen from the contained infection, by early tension, giving rise to pain and then, were a capsule present protection of the cavity would be rendered greater. Such a condition not existing however, we must trust to prevention, where possible.

Pancreatic fluid, damming back in the biliary passages, however, may cause grave symptoms, but they are not so desperate, because the distance to the liver is far greater and allows of many conditions such as dilatation of the gall bladder, etc., which may give ample warning; or even rupture before such an infection has extensively damaged the liver; and even with rupture, the patient has a moderate chance to live, or, there is still a fair chance. Not so, unfortunately, with the pancreas. We may excuse ourselves by saying that such conditions are relatively rare; yet how vastly perplexing when met, and how glaringly stands out the demand for proper biliary drainage.

Discouraging as the outlook may seem in cases of pancreatic infection, yet the pancreas, as an infected organ, is far from being without hope, in so much as we have that greater class of cases coming under the general head of chronic pancreatitis; yielding almost unanimously to proper surgical interference, which in a word, means, biliary drainage. Dr. Maurice Richardson, Boston, (*Surgery, Gynecology and Obstetrics*, May, 1912), says that: ''Conditions suggestive of chronic pancreatitis, suggest also a gall-stone origin, as indeed I am quite ready to believe, is usually the case.'' Such a biliary drainage should, I believe, be kept up much longer than where the inflammation has not extended further than the biliary tract, that the pancreas may have plenty of time to entirely rid itself of its damaging processes.

In conclusion, it seems to me, that any one who dares to open the abdomen, no matter what may be the suspected trouble, should first know well the physiological anatomy and have *well* in mind, all the pathology obtainable, that there may be no delay in a prompt recognition of the conditions present; in consequence of which he may fearlessly and confidently attack the pathology found, keeping well in mind the fact that a knowledge of when to quit is a most important asset to successful surgery.

DISCUSSION.

Irvin Abell: I think the society is to be congratulated upon the presentation of this excellent paper, and upon the fact that Dr. Spalding has been good enough to demonstrate it with actual living anatomy, something that most of us, unfortunately, do not thoroughly appreciate. It is a matter of impossibility for any one to appreciate the pathology of any given portion of the body unless he is thoroughly familiar with the anatomy of that part, and discussions and talk that we hear so frequently here, with reference to the dislodgment of stones and securing drainage of the biliary tract by medical measures, are very readily dissipated by a careful study of such beautifully prepared specimens as have been presented to-night. What the essayist has said in the paper about the preparation one should undergo before doing this class of work goes without saying; it hardly admits of discussion, and the presentation of the specimens carries conviction with it.

So far as the indications for drainage are concerned, with the difficulties and dangers that such drainage entails, I would quote a warning that has been given in connection with the excesses to which one might be tempted to go in these cases, that ''it is better to do two operations than to have one dead patient.''

As stated by the essayist, one important factor in the armamentarium of the surgeon is to know when to quit as well as when to go on. The danger in establishing drainage of the biliary tract at times is exceedingly great, and especially in that portion of the tract which lies behind the duodenum. It is not always possible for one to dissect the duodenum in towards the center of the abdomen, as is done in a specimen of this sort. As stated, when there are no adhesions, it is quite easy. Unfortunately, however, the greatest criticism that can be placed upon the medical profession of to-day is that most of these cases are brought to operative measures at a time when the difficulties are too great to be overcome, and operation offers very little hope. I remember that even when I graduated, not a great while ago that the symptoms (as they termed them at that time) of gall stones were what we recognize to-day as practically the terminal manifestations of the disease. I believe we are all agreed that these manifestations should no longer be considered as an indication for an attack upon the biliary tract; that we should make the diagnosis early, before adhesions and infiltration of the surrounding structures has made it impossible to establish satisfactory drainage. In fact, the time has come, when all these cases, exclusive of malignancy, should be classified either as obstructions of the biliary tract or infections of the biliary tract. When it comes to the therapeutic indications under such circumstances, it means removal of the obstruction, which may be one of the most difficult of all operations, and, second, drainage of the tract, and no drainage is satisfactory or complete unless the obstruction of the tract is removed.

Wm. H. Wathen: I fully agree with Dr. Abell that we are indebted to Dr. Spalding for this very excellent and practical paper. His demonstration of the correct anatomy of the gall-bladder and ducts is something for which we should all feel grateful. Without a knowledge of the physiological anatomy of these structures, we cannot properly appreciate their pathology, nor can we so easily remove the disease by operation. When we understand the anatomy correctly, then we are prepared to understand any change that occurs by reason of the pathology that exists. In most of these cases we find adhesions to a greater or less extent, and these adhesions change the normal relations of the ducts.

We have been often told that stone in the common duct is invariably followed by jaundice. This is a mistake. We will find that in possibly twenty-five per cent. of cases of stones in the common duct there is no jaundice at all. This has been the experience of men like Robson, Moynihan, Mayo, and others. Therefore, we should not fail, in every case where we operate for gall-stones, to carefully and thoroughly examine the common and hepatic ducts; otherwise, we may remove only a portion of the pathology leaving the patient in no better condition than before we had removed any of it. One of the great faults in surgery of the abdominal cavity, and especially of the middle and upper abdominal cavity, is the failure to find and remove all of the pathology, and the patient is not benefited by the operation. In every case in which I operate for appendicitis or gall-stones, I very carefully examine both the appendix and the gall-bladder, because the two conditions are very often associated, and if we do not remove both, we do not cure the patient. I think this rule holds good in every abdominal operation, and because of his failure to observe it the surgeon is often criticised for doing too much surgery when the criticism should have been that he did not do enough surgery.

In contrast, let me emphasize what Dr. Spalding said in regard to doing too much surgery. In cases where the patient is not in condition to stand the shock of extended operation, for instance, in acute septic cases, or where to continue the operation would endanger the life of the patient, we should do just as little surgery as we can consistent with the relief of the immediate condition; then wait until our patient is in better shape and go back into the cavity and remove all the pathology. Only recently I operated upon a woman, not for gallstones but for another condition. However, I found the gall-bladder filled with gallstones which I removed, and then found in the hepatic duct a gallstone as large as a small marble, which could have been easily removed, but the anesthetist warned me that the patient would not be able to stand further operative work. Therefore, I closed the abdomen. Drainage was perfect and the woman's symptoms were relieved, but I propose to go back later and remove the stone from the hepatic duct.

Ap Morgan Vance: I wish to compliment this paper in the highest terms. There is need of men of Dr. Spalding's type in the profession to-day and their advent gives promise of better surgery and less funerals in the future.

Many years ago, when I was younger, I was the guest at a meeting of a local literary society, at which a paper was read opposing vivisection, and most of the members in discussing the subject seemed to be very much on the fence. As the guest, I was called upon last to say something on the subject. I arose and stated that I would simply ask a question of each individual member of the distinguished body; that is, whether he would rather have an operation for gun-shot wound of the belly done upon him by a man who had killed a hundred dogs in learning how to sew guts, or by a man who was doing his first gut suturing upon him. Of course, this could be answered in only one way, and it knocked out the proposition of anti-vivisection there and then. Likewise, I believe that the more our young surgeons dissect, the better surgery they will do.

Jno. R. Wathen: There is nothing to criticise and everything to praise about this paper. There is only one little point on which I want to differ with the essayist. If I am not mistaken, Opie has clearly shown that in about one-third of all dissections, the common duct will be found to run through the head of the pancreas for two-thirds of its length; in other words, the first third is outside of the pancreas, while the other two-thirds runs right through it.

Several years ago I had the opportunity, with the permission of the Coroner, to make dissection of a number of cadavers. I injected these specimens with white lead and radiographed them, the X-ray plate showing the outline of the pancreas and the surrounding structures, and the results of this work led me to exactly the same conclusion as Opie; that in many cases two-thirds of the common duct lies in and through the center of the pancreas.

In the specimen exhibited to-night, it appears to be very easy to rotate the duodenum and dissect it out by a little blunt dissection, from the pancreas, but we must remember that in the presence of inflammatory conditions we usually have a great many adhesions, and that we also have considerable hemorrhage in dealing with the pancreas, all of which makes us realize that the removal of a stone from the second or third portions of the common duct is a very difficult matter indeed.

Jno. W. Price, Jr.: I wish to compliment Dr. Spalding especially upon these specimens which he has so carefully prepared. I also enjoyed the paper very much, and wish to speak to only one or two points.

First, I want to emphasize the importance of leaving the gall-bladder intact, if possible, and not doing a cholecystectomy, although the condition of the gallbladder itself may seem to indicate it, if you have, at the same time, a pancreatitis. The draining of the bile passages for a long time, even with a dilapidated gallbladder is of great service.

While I indorse Dr. Spalding's remarks in regard to conservative surgery in operating upon the bile passages, yet this is a live question that has not been settled in any clinic in the country. We find one man in New York, with a tremendously large clinic, advocating cholecystectomy in all cases of multiple stones in the gall-bladder. We find another man, also with a large clinic, advocating leaving every gall-bladder intact, unless it be gangrenous or contains tumors, especially malignancy. We find still another man who says that, unless we can adequately drain the gallbladder, it should be taken out. Here are three very diverse opinions emanating from men all of whom have large clinics.

I think it is well to have such papers as this one presented to us because they make us think over these problems for ourselves.

Guy P. Grigsby: The ground has been so thoroughly covered by the essay and discussion that there is little to be said. Like the rest of the speakers, I have enjoyed the paper very much as well as the specimens presented.

I wish to mention one point that was brought out in the paper and emphasized by Dr. Abell; that is, the delay in getting these strictly surgical cases to the surgeon. It is fortunate that the public, as well as the profession, are at least becoming educated to the fact that in surgical cases delay is dangerous. However, unless the profession at large will familiarize themselves with and make use of the diagnostic methods now employed by a small minority, we cannot hope for much improvement in the way of early diagnosis. It would seem to be very unwise, in acute conditions within the abdomen, especially those of the biliary tract, which, as pointed out, often terminate fatally, to unnecessarily delay the diagnosis when by exploratory operation (which will eventually be necessary anyhow) we can clear up all doubt as to the condition that exists.

W. C. Dugan: I have certainly enjoyed Dr. Spalding's paper and the demonstration he has given us. I want to join him, and others who have spoken, in advising against too much surgery in these extreme cases. Only recently I read one of Murphy's clinics, in which he spoke of 95 per cent. of fatalities in these extreme cases of common duct stones and gangrene of the gallbladder, and said that an operation which gave the patient only a five per cent. chance was not surgical.

There is nothing truer than what Richardson said in regard to waiting to make diagnosis in conditions in the upper right quadrant of the abdomen. He said it is sufficient to know that there is occasion for exploratory operation, leaving the special diagnosis until after the abdomen is opened.

The removal of a stone from the common duct in a plain case is easy, but where there are extensive adhesions it is one of the most difficult of operations. I am quite sure that it surpasses in difficulty the removal of the ganglion of the trifacial. I do not believe any operation will tax the surgeon's skill to a greater degree than the removal of a stone from the common duct in a case where there are extensive adhesions with the usual complications down near the duodenum.

John W. Heim: I was very glad to hear Dr. Spalding sound a note of warning against doing too much surgery in these cases, and I want to again emphasize the statement that gallbladder cases are bad surgical cases. They stand anesthetics badly. They require deeper anesthesia than in surgery of almost any other part of the body, and the shock is greater. In surgery of the biliary ducts particularly, the blood pressure will fall lower and faster than when the same amount of trauma is done in any other portion of the body.

Jno. W. Price, Jr.: Dr. Heim's remarks have reminded me of one point; that is, the advantage of using Crile's anoci method in operations in the upper abdomen. We have had a little experience in the past few months with this method of anesthesia, and I think it has been demonstrated to those who have seen the operations that there was a much greater degree of relaxation in the upper abdomen than was ever possible under the deepest ether anesthesia, and also that these patients had to take far less ether than usual in cases where ether was given. Some of these operations were done entirely under gas and oxygen. A few cases were given some ether; some were given ether together with a local anesthetic, quinin-urea hydrochloride and novocaine.

Another point is that in closing incisions in the upper abdomen, I am sure we have all had difficulty in some cases on account of the straining of the patient, causing a tearing out of the sutures in the peritoneum. When this local anesthetic has been injected into the peritoneum, muscles and skin, there is such relaxation that it is really a pleasure to sew up an abdominal wound prepared in this way compared to what it is under a general anesthetic alone.

Edward Speidel: I wish to thank Dr. Spalding for this excellent paper and also for the presentation of a very interesting specimen. It recalls to my mind an experience I had in the Massachusetts General Hospital, three years ago, when Dr. Richardson, the pathologist, allowed me to witness three post-mortems. Dr. Richardson has demonstrated that he is able to remove the entire viscera (including the tongue and bladder in one mass) and place it upon the table before the class and demonstrate every part in its proper relation. I think it is deplorable that the profession in a city of this size should not have opportunities for witnessing such work. I would like to call the attention of Dr. Vance to the fact that it would be very desirable, when the new hospital is opened, for members of the profession in this city to be given frequent opportunities to see post-mortems. I think it would do more than anything else to add to the knowledge of physicians to see such dissections as illustrated by the specimen presented by Dr. Spalding.

C. B. Spalding, (Closing): I wish to thank every one of those who have discussed the subject.

I regard to variations in the normal anatomy, referred to by Dr. Jno. R. Wathen, I will say that that was one of the reasons for the presentation of this specimen. Variations from the normal anatomy are frequent. The pylorus of the stomach is rarely found in the same place in various cases. We must bear the possibility of such variations in mind, in making our dissections and studying our cases on the operating table.

I have here a fresh specimen, removed this afternoon, consisting of 34 gall-stones, which serve to exemplify one point brought out in the paper. This was an acute attack of gall-bladder trouble engrafted on an old condition of 16 years' standing. The patient was in a very critical condition. I saw her at two o'clock and operated on her at four o'clock, removing these stones from a gall-bladder which was covered by the transverse colon adherent to the liver. There was a mass of adhesions as big as my two fists. Had I attempted to break up the adhesions and dissect out the gangrenous gall-bladder, I think the patient's chances would have been materially lessened. However, I simply lifted the mass of adhesions from the liver, opened the gall-bladder, removed the stones and established drainage. I think the best results are to be obtained from this method in such cases.

SOME POINTS IN DIAGNOSIS AND REMOVAL OF MALIGNANT CONDITIONS OF THE BREAST.

By A. D. Willmoth, Louisville.

If it is true that cancer at first is a local disease, subject to removal and lasting relief, also, if it is alarmingly on the increase, if neither age, race, or clime is exempt, if thirteen out of every fourteen tumors in the breast of women over forty years of age will prove malignant, it certainly becomes the paramount duty of the profession of which we are members to begin the education of the masses to the above facts and to some of the earliest symptoms, or at least to instruct them that any tumor in the breast should be considered malignant until proven benign.

There can be no denial but that the clinical picture of cancer of the breast has cast a gloom over the laity and has gotten a false impression in the minds of the profession.

As Dennis well puts it, the question to be answered, by both surgeon and laity is "Can a permanent cure be effected if operation is undertaken early and is radical enough in character?" This has been answered by the men whose experience has been the largest. Rodman says that from forty to fifty per cent. should be fully cured when seen and operated on early, to say nothing of the perfect cure in that thirty to thirty-five per cent. that are benign in the beginning.—(Judd in "*Mayo Clinic,*" 1911, page 214.)

The laity does not know this, many physicians do not, so between the hopeful layman and the optimistic physician the period for a favorable operation is too often passed and the patient comes to us too late. Of those coming after evidence of long delay, about one-half can safely be said to be due to ignorance of the patient and the other half to advice given them by the ultra-conservative physician who examines the case before glandular involvement elsewhere has taken place, and admonishes them to wait, not to bother the tumor until it bothers them, if seen in the spring time, they say: "Let me see it again in the fall."

Listen to that sound and wholesome advice of one rich in experience, Doctor Maurice Richardson, who said that all neoplasms wherever situated should be removed if possible when first discovered. Again quoting from Rodman, (whose words should sink into the hearts of every physician).: "He who advises a woman with a tumor in her breast to wait is guilty of an unwarranted and censurable act."

A review of the tables here presented, together with a careful study of the following facts, will help us to guide some of these hitherto unfortunates in proper channels early enough to promise at least one ray of hope.

A carefully gotten history both personal and family, the latter to ascertain about any previous malignancy in the family or near relative, also of tuberculosis, while in the former we determine if this patient has ever had a growth of any kind before or tuberculosis elsewhere in the body.

Syphilis should be looked for, and if suspected the Wasserman or cobra venom test or both applied.

Age: Formerly age was considered of the greatest importance in differentiating mammary tumors, believing that carcinoma rarely affected the breast under forty years of age. This we know to be a mistake, about twenty per cent. being found in patients under forty, so also may benign growths at times be found in those over forty.

Site of growth: One of the points of real value to us is the location of the neoplasm in the gland, carcinoma being most often seen in the upper and outer quadrant, next in point of frequency being immediately behind the nipple, causing contraction. Next to this in the axillary prolongation, while the benign and sarcomatous growths are found oftenest in the upper and inner quadrant near the sternum.

Movability of the tumor: The mobility of a tumor is a very important thing to determine. A tumor that is freely movable and certainly not adherent to the skin is assuredly not a cancer. It may be slightly movable and still be malignant, but if moving of the growth causes dimpling of the skin or retraction of the nipple or both, it is pathognomonic of carcinoma.

By exposing both breasts and moving them to and fro in every direction when the asymetry of the skin over the tumor will show the amount of dimpling. The retraction will of course be in direct proportion to the shortening of the trabeculae. Moreover the general appearance of the skin must be taken into account, where there is enlarged elongated and tortuous condition of the veins coursing over the breast that show enlarged blue lines, a diagnosis of sarcoma can safely be made.

The skin in carcinoma resembles closely the peel of an orange and has been called the "orange skin."

If the skin is breaking down and a craterlike ulcer is present with a fungous mass protruding, a diagnosis of medullary carcinoma is easy. Dúration of the growth for many years usually means that it is benign, but it does not of necessity follow that it will forever remain so, as palpable tumors have remained in the breast for ten and twenty years and then undergo malignant changes. Pain also must be viewed with suspicion as a symptom of any value, ever remembering that it is more common in benign than in malignant growth, a thing that has caused many patients their lives, causing them to wait in the face of a full knowledge of a growth because it gave no pain.

Enlarged axillary glands are of little or no service in an early diagnosis, for the very good reason they are enlarged from so many causes on the one hand, and when enlarged as the result of a growth in the breast, are always a late manifestation and the growth itself can be easily felt.

A discharge from the nipple unless accompanying pregnancy or lactation usually means a benign growth, unless the serum expressed is cloudy or bloody, then we should interpret it to mean a cyst with an intracystic papillomatous growth, fifty per cent. or more of which will prove malignant. Such tumors when suddenly enlarged mean a hemorrhage into the cyst.

It is interesting to note that in sarcoma, cachexia does not occur even though the mass is ulcerating. Borst called attention to this many years ago. Neither do adhesions of the skin occur or glandular enlargement take place.

Trauma, race, social state, fertility or not of the host together with that night-mare of the laity "heredity" should all be considered and are of value only when they point in the same direction and should never be regarded too seriously.

When trauma is a factor in carcinoma, it usually is after one rather severe injury, in contrast to carcinoma following injury in other parts of the body where you have the history of a number of mild injuries. Sarcoma follows one rather mild injury, not enough where bone is involved to produce a fracture.

Rare indeed is it when mother and daughter both have breast tumors. Rodman had only one such experience but admits many such histories. Married women and especially those who have become mothers are more prone to breast cancer than are the single or those that are sterile, due of course to the changes in the gland incident to lactation.

Before leaving this part of my subject I wish to add my voice to that of other clinicians who realize that in possibly as much as ten per cent. of all cases seen, cancer of the breast is not and cannot be diagnosed clinically in an early operable stage. The clinical symptoms are only part of the symptom complex and to the microscopist, must all specimens be sent for an accurate and positive opinion.

Treatment: In consideration of the treatment of the breast, certain points stand out pre-eminently, viz: that we are little if any nearer the solution of the cause than we were many years ago. Second that the disease is at first local and can be relieved if seen and dealt with early. Third, that any treatment other than thorough excision takes from the patient the only reasonable chance of permanent cure. The third point reminding us that there are certainly cases enough on which to try the non-operative treatment without taking the easily operative ones and depriving them of the last hope.

A long road has been travelled from the simplest botanical salve down to the X-ray and trypsin and amylopsin cure, to say nothing of the easy, safe, and sure relief, promised these otherwise unfortunates by the late Advanced Medical Company of this city, who stated to the world that they had solved this intricate problem that had defied the best thoughts of the medical profession for ages but with all this power of thought they failed to solve the problem of escaping complete extermination from the hands of the criminal court. Not one case of cure can be reported from any of these, where the growth was positively shown by the microscope to be cancerous.

While surgery does not promise to cure all, it does promise to cure those in whom the growth was at first benign which according to Judd in *Mayo Clinic* of 1911, comprises about thirty-five per cent.. It even promises relief to those of beginning malignancy if they come early, and finally it holds out a hand of palliation for those far advanced by removing tissues that are breaking down and sending toxic material into the system each hour.

The following report of Fidelen (*Archive Gen-dechir,* Vol. 3—999) is of more than passing interest. From 1865 to 1875, the per cent. of cures was only 9.4%, 1875 to 1885, 10%, 1885 to 1895, 34%, from 1895 to 1905, 46.3%.

The recurrences from 1865 to 1875 were locally 76%, glandular, 8.4%, at a distance 7.5%, from 1875 to 1885 locally, 72%, glandular, 6.2%, at a distance, 10%, from 1885 to 1895, locally 45.5%, glandular 8.4%, at a distance 19%, from 1895 to 1905, locally, 29%, glandular none, at a distance 23%.

It will be noticed that in the decade from 1895 to 1905 the per cent. of cures was raised from 34.3% to 46.3%. That the local recurrences were lowered from 45% to 29%, and in this connection I wish you to remember it was due to American surgery that such results were obtained.

In 1895 after the splendid work of Cheyne, Butlin, Rae and others was given to the world, Halsted gave his description of the complete removal of the gland, pectoral muscles and fascia together with the axillary lymphatics. It was about this time he made the memorable assertian, that the man who makes the primary skin incision for removal of the breast should have nothing to do with the closure of wound, for the reason that in spite of himself he would plan to save skin to close the wound and in this very thing lurked danger of rapid recurrence.

How well this has been proven, we know. In the analysis of more than 4,000 cases Handley found that recurrence took place nearly always in the skin and superficial fascia, in this assertion, Butlin, Cheyne and most others including the pathologist, now agree.

In perfecting the details of a complete operation for removal of breast, no one deserves more credit than a former Louisville surgeon, Dr. Rodman, whose method has embodied in it, those principles of wide dissection of the fascia enunciated by Halsted.

At the same time he controlled the hemorrhage by getting first to the proximal part of the vessels supplying the glands. Also by cleaning out the axilla, first, we destroy the chain of glands leading up toward the neck, thereby lessening the danger of cancer being disseminated from the primary focus.

Rodman's operation can possibly be improved upon by saving all of the pectoral muscle less the aponeuroses and fascia covering the pectoralis major and minor. These should be removed, for it is in these that the lymphatics run and the cancer cells disseminated. Rare indeed is it that the muscle itself is involved. The late Dr. Joseph Price called attention to this many years ago and many others, such as Handley, Cowardine, Henle, Murphy save the muscle and pull it in the axillary space using it as a cushion for the blood and lymphatic vessels thereby lessening the troublesome oedema so often seen.

A word in regard to the various operations devised by surgeons with a view to closing the wound. They do not remove enough of the skin and superficial fascia. It is far better to leave the wound open and skin graft.

Let me say in conclusion that we can offer the patient a mortality of not more than one-half per cent. that the percentage of cures will be in direct ratio to the time the growth has existed, but with early cases at least fifty per cent.

Isn't it worth while?

ACUTE ABSCESS OF MIDDLE EAR; ETIOLOGY, SYMPTOMS, AND TREATMENT.

By Wm. C. White, Louisville.

ETIOLOGY.

Acute inflammation of the middle-ear spaces is characterized by a bacterial invasion, resulting in a purulent exudate from the mucous membrane of the tympanic cavity. The outpour of this exudate gradually accumulates until it fills the tympanum, thereby causing a swelling of the mucosa and a bulging of the drum, and pain is the result, and if not relieved by an incision, spontaneous rupture of this membrane takes place. If this does not take place soon enough the disease is very liable to spread by contiguity through the aditus and we have a mastoiditis to deal with. Hence, the warning to give to this condition early attention.

The predisposing causes in this condition are given by the various writers and lecturers, as follows: Exanthematous fevers, adenoids, enlarged or diseased tonsils, acute coryza, bronchitis, whooping-cough, influenza, diving, cold irrigation, typhoid fever, syphilis, tuberculosis, operations on the nose, etc. Great stress is laid on some one of these conditions as the predisposing cause, depending on who is writing or lecturing.

In my experience the great etiological factor in this condition is the nasal douche or snuffing fluids up the nose. I am aware that a great many men use and prescribe this method of treating the nasal cavities. I have had four cases in the last three months that were directly traceable to this form of medication for an acute coryza. In one instance, a child, age 6, developed a severe cold. The mother, usually a good nurse to her children, endeavored to get the little one to snuff salt water up its nose and not succeeding, removed the tip from an ordinary atomizer and succeeded in getting a good volume of the solution into the posterior nares, which caused a certain amount of strangling and coughing and the forcible ejection of some of the fluid; followed six hours later by an acute abscess in both ears. Now, gentlemen, you all know the relations of the Eustachian tube to the posterior nares, you all know the small amount of space in the naso-pharynx, in infants and children, and the amount of force you can get in such an irrigation is surprising. With the rush of water into this space the natural inclination is to swallow, which at once opens the mouth of the Eustachian tubes, and effort of the patient to prevent it from going into the trachea further opens the tubes, and allows some of the infected tenacious mucus of the nose and naso-pharynx to enter the middle-ear. Now don't misunderstand me as saying that irrigation of the nose is never indicated, for I am fully aware that there are instances where it is valuable, but it should be done by the physician or a trained nurse. It is a well known fact that all infections of the middle-ear occur through the Eustachian tube, except in those rare conditions of traumatism, syphilis and tuberculosis.

The exciting cause, of course, is a micro-organism. In earlier stage of the acute condition it is usually mono-bacterial in the chronic condition it is poly-bacterial. The streptococcus pyogenes is the most virulent and destructive to soft tissues as well as bone; in infants and young children the pneumococcus is usually the exciting cause. Streptococcus invasion is very rapid, often requiring only a few hours to involve the entire mastoid process. Pneumococcus is not nearly so rapid or virulent. The staphylococcus is the least virulent. Opinions differ as to whether the mere presence of a pathological germ in the middle-ear is sufficient to cause purulent otitic inflammation unaided by some pre-existing pathological alteration of the mucous membrane. So far as our knowledge goes, we may presume that the effects of the micro-organism depends on the resisting power of the patient and probably to some extent on the nature of the pabulum in which they live. Libman classifies as dangerous, the discharges that contain diplococcus, streptococcus, and dead leucocytes, as not dangerous, discharges that contain, staphylococcus, pneumococcus, and living leucocytes.

In measles 15% go on to suppuration, authorities differ as to scarlet fever, some put the percentage as high as 40%; diphtheria 10%, and in these conditons it usually occurs during the second week or while the fever is on. In typhoid fever it occurs only occasionally, then during convalescence.

SYMPTOMS.

In older children there is often a sensation of itching deep in the ear before any pain is felt, or it may be preceded by a chill and the child is put to bed and given quinine, (the worst thing possible) or the child may awake from a sound sleep crying with one or both ears, the tongue is nearly always coated, the temperature is elevated from one to four degrees; the pain is excruciating, usually of the deep boring character with an occasional sharp twang. It is said that the older the patient the greater the pain.

Second. The pain is increased by sneezing, swallowing, or coughing, and often radiates over the side of the head and to the teeth.

Children do not often complain of noises in the ear as do adults, they do complain of their voices sounding peculiar.

Third. In infants and very young children there is restlessness, pulling at the affected ear, hanging the head toward the affected side; often it is ushered in with convulsions, and diarrhoea, nutrition is seriously affected. These symptoms with the temperature throw the physician off the track and the bowels are treated, until the discharge appears in the ear. Again, when the infection is severe, meningitis is seriously thought of. Where the child is breast-fed the child refuses to nurse except with the affected ear next to the mother's breast.

On examination, there will be a tenderness over the mastoid process, there is always an inflammation of the mucous membrane in these cells at the beginning of this condition, not surgical at this time. The external meatus in severe cases is oedematous and painful to the touch; deafness is often pronounced, especially in scarlet fever and diphtheria; bone conduction usually remains intact. The drum is red and swollen, often looks like a coal of fire. The landmarks, if seen late are lost. In this condition due to influenza there is often a haemorrhage and you are not able to make out the fluid in the middle-ear as often as one would think, owing to the opacity of the drum membrane at this time.

Fourth. There are a few cases in infants and young children where pain seems to be entirely absent, during the entire course of the disease, in such cases you usually have either a syphilitic or tuberculous condition.

TREATMENT.

I do not know of any disease or condition in which the neighborhood cureall has so many cures, especially in the rural districts. I speak feelingly of this, as I was raised in the rural district, and during my early childhood was afflicted with this condition and all the home-made remedies were tried on me. Cow-dung poultice, patient's urine, etc. For instance, I have seen black "Mammy" wait for a cow to defecate; this was secured, then transferred to a sack and the child made to pillow its head on the soft, fragrant pillow; freshly voided urine was instilled into the aching ear; tobacco smoke from a corn-cob pipe blown into the ear, were all used We all laugh at the way of treating this condition, but stop and think, they were getting the same thing that we strive to get, viz: moist heat.

Second. The instillation of sweet oil, laudanum, onion juice, and peroxide is to be condemned, as these substances only tend to become rancid and infected and when the drum ruptures, there is the fresh infection to join with that inside. One case I saw had used rabbit oil, for ten days, this was a new cure to me, it is needless to say this case went on to a mastoid operation.

Third. Rest in bed is the first order, open the bowels thoroughly, usually with calomel; in infants, castor oil. This acts by depleting and materially relieves the congestion. A great many remedies have been suggested for the relief of the pain and to abort the process without incising the drum. Hot saline irrigation, using a quart at each irrigation; an ordinary fountain syringe will do nicely. If you wish you may use bichloride, one to five thousand; this supplies the heat and also sterilizes the field for your operation of opening the drum.

Fourth. Carbolic acid in glycerine from 2% to 10% warmed and dropped into the ear as often as you wish. The acid is antiseptic and anaesthetic the glycerine has the power of depleting. Often leeches are used, personally I never use them. Spray the nose with a fine spray or nebulizer, make application to the tonsils. I usually use a formaldehyde solution. At the first sign of bulging open the drum thoroughly. Don't do a paracentesis; that word should be left out of all text books, as a paracentesis will not do, you must have a free opening to relieve the condition, as drainage is what you are after.

Fifth. In opening the drum I usually use gas anaesthesia and make an incision through the bulging part down to the floor, one-fourth of an inch past wall at tympanic ring. There is usually a free flow of blood and sero-purulent fluid, then the pus following after. Irrigation every two hours until the pus greatly diminishes. In conclusion I would ask you gentlemen, to watch for the symptoms I have mentioned and incise early for it is by prompt action that you get the best results and the least interference with future hearing; if you wait for spontaneous rupture, you have an irregular opening that is slow to heal and often does not heal, and there will be left an opening to become chronic and as you know, a chronic otorrhea is a serious complication when the patient reaches adult life and is wishing life insurance.

REPORT OF FOUR CASES OF APPENDICITIS ASSOCIATED WITH FOREIGN BODIES—COAL, GRAPE SEED, OXYURIS, BISMUTH.

By John W. Price, Jr., Louisville.

A review of the literature of appendicitis up to date shows that the presence of foreign bodies in the appendix is quite rare. It is my opinion that a large number of cases with foreign bodies in the appendix have not been reported, otherwise they would have been mentioned in such voluminous works as that of Kelly and Huron on the "Vermiform Appendix and Its Diseases," published in 1905, and "Appendicitis, Its Diagnosis and Treatment," by John B. Deaver, also published in 1905. Kelly's list includes only 85 cases of appendicitis associated with foreign bodies. His list of foreign bodies includes pins, 46; bird shot, 7; bullet; solder-bone, 7; wornout bristles from a tooth brush, two-inch nail, ascaris lumbricoides, 9; oxyuris, 8; tapeworm, 2; echinococcus and eggs of the parasite bilharzia.

Deaver's list includes shot, pins, worms, gall-stones, a tooth, pieces of bone, grape seed, date seed, cherry stone, apple pips, oat husk, corn husks, bristles of a tooth brush, wisps of a broom, fin of a fish.

McCarthy's report of the examination of 5,000 appendices from the Mayo clinic showed the presence of foreign bodies in 57. The foreign bodies found were short hairs, tooth brush bristles, shot, gall-stone, fruit seeds, pins, worms, and fecaliths.

Murphy found fecaliths in 30% of 141 cases.

Patterson in 1906 reported an appendix containing a piece of egg shell. Other foreign bodies in the appendix found in the literature and reported in Patterson's article were pins, 48; shot, bullets, 8; worms, lumbricoids, 6; ascarides, 3; unclassified, 1; oxyuris, 12; egg shell, 1; bone, 5; bristles, 2; fin of fish, 2; fish bone, 1; two-inch nail, 1; tack, 1; fish scale, 1; quarts, 1; apple skin, 1; metal, 1; and straw, 1.

In the June, 1912, number of the *American Journal of the Medical Sciences*, Cecil and Bulkley attempt to identify appendicitis due to oxyuris and richocephalus as a separate disease, having an etiology, pathology and symptomology of its own. They report 23 cases of their own and 49 cases they found in the literature. There were 61 cases containing the oxyuris alone, one case containing the oxyuris and trichocephalus and 9 cases containing the trichocephalus alone. The chief symptoms on which they base their diagnosis are the pain which is frequently out of all proportion to the objective symptoms, the average temperature being about 100½°. It was noted as high as 104° or 105°. Tenderness is as a rule marked on both superficial and deep pressure. They say the tenderness was so acute that the patient frequently voluntarily contracts the abdominal muscles but true rigidity is so often absent that we have considered it as one of the important signs for differentiation of the disease from non-parasitic appendicitis. Their explanation is that the disease is always an endo-appendicitis with the lesions confined almost exclusively to the mucosa. Carson has also noted this lack of rigidity and thinks that the attacks of appendicitis, due to oxyuris, are characterized by an exaggeration of subjective symptoms and a comparative absence of physical signs. Cecil and Bulkley's conclusions of the most important points in making the diagnosis of appendicitis due to oxyuris or trichocephalus are the age of the patient, childhood and adolescence; the history, suggestive or definite, of worm infection; the character of the pain, the slight general constitutional reaction, and the relatively exaggeration of the subjective as compared with objective symptoms. In 1901 Metchnikoff suggested that in any so-called epidemic of appendicitis the stools of the patient should be searched for intestinal parasites or their ova.

The first foreign body in the appendix which I saw was demonstrated by Dr. James Tyson in his clinic at the University of Pennsylvania. The case was rather an interesting one. The foreign body was a two-inch nail which was lying lengthwise in the appendix. It was only discovered at autopsy and there was no evidence of any inflammation about the appendix. The patient had been in the medical ward of the University Hospital under treatment for heart and kidney lesions. A careful history of his case had been made by the hospital physicians. Dr. Tyson had used him for a demonstration in a clinic. A number of students had examined him in the ward of the hospital before his death and there was at no time any reference made to any disturbance in the right iliac fossa.

The cases which I wish to report to-night have occurred in our practice since February, 1912:

CASE I.

Diagnosis acute catarrhal appendicitis due to oxyuris.

Miss M. B., age 19. Family history was negative for appendicitis except one cousin. The patient has always been well until her present illness which was first noticed in the summer of 1911 at which time she had an acute attack of slight abdominal pains, which passed off in a day. About Jan. 25, 1912, she had an attack of acute abdominal pain more severe than the first and was followed by slight nausea. Present attack began January 29th, with sudden acute, sharp cutting pains,. first all over the abdomen, around the umbilicus, and then localized in the right iliac fossa. It was followed by nausea and vomiting and sub-normal temperature. Later her temperature was 99°. January 30th and 31st pain increased associated with vomiting and then subsided for twelve hours. February the 1st, she had a more acute pain than at any time, with marked localized tenderness over the region of the appendix. There was no rigidity of the muscles.

At operation, February 2nd, 1912, the appendix was found free of adhesions and showed just slight congestion of the superficial blood vessels. The tubes and ovaries and gall bladder were normal. We were at a loss to account for the severity of her symptoms but decided it would be best to remove the appendix. When the appendix was opened it was found to contain twelve live oxyuris. Some were partly buried in the mucosa. The mucosa was swollen, congested and edematous. The parasites were examined by Drs. Tuley, Austin and others. Recovery from operation was uneventful.

CASE II.

Diagnosis, acute intestinal appendicitis with ulceration of the mucosa. Foreign body in the appendix, a piece of coal the size of a number 3 shot with a sharp point.

Mr. L. D., age 23, laborer. Patient had an attack of acute abdominal pain followed by nausea and vomiting which continued for three hours about three years ago.

Present illness began two or three weeks ago with an attack of severe, sudden, cramp-like pains through the abdomen. Pains were followed by nausea and vomiting and continued for several hours during one night. The physician who saw him at the time of his attack told him that he thought from the severity or the symptoms, the agonizing pains, that he probably had gall-stones and possibly was passing one. He returned to work the following day. Since then every few days he has had short, sudden cramping pains through the abdomen but he has continued at work. On October 10th, 1912, he had a similar attack to the others only the pains were more severe, also the nausea and vomiting. The attack began at 5 p. m., and continued during the night. The pains were most severe at first, in the region of the umbilicus then all over the abdomen and later localized in the right iliac fossa, especially about McBurney's point. He described his pain as being stabbing, very acute and then passing away and returning with equal violence. During the night the pain subsided somewhat in its severity. Examination showed tenderness and rigidity over the entire abdomen, but marked on the right side, especially over McBurney's point.

Operation October 11th, 1912, the appendix was found red, hard, infiltrated, congested but free of adhesions. When the appendix was opened a stricture of the lumen was found near the middle and the distal portion was filled with pus and imbedded in the mucosa was a piece of coal the size of a No. 3 shot with a sharp point. The mucosa and muscular tissue were congested, infiltrated and edematous.

Recovery was uneventful.

CASE III.

Diagnosis, chronic appendicitis with ulceration of the mucosa due to two large grape seeds. Adherent bands to the appendix produced a kink in it.

Mrs. E. R., age 32. Family history is negative for appendicitis. Several members of the family have died of tuberculosis. Previous medical history—patient had an attack of appendicitis ten years ago, was ill ten days, temperature was as high as 103°. Had uremia in 1911.

Present illness began one year ago with dull aching pains in the right side, almost all the time. Sometimes the pain was more severe than at others, especially before and during the menses. Has backache, feels tired all the time. She has pain whenever she overeats. The diagnosis of chronic appendicitis associated with adhesions or bands about the appendix was made.

At operation November 29th, 1912, tubes and ovaries were found normal.

The appendix was found kinked at the junction of the middle and distal third due to a band 3-8 of an inch wide at the appendix end and 1 1-2 inches wide where it was attached to the base of the cecum. The length of the band was 1-2 inch. A second band extended from meso appendix to the mesentery of the ilium. When the appendix was opened it was found that it contained a fecolith in the center of which were two very large grape seeds. The mucosa at site of the fecolith was smooth. Recovery was uneventful.

CASE IV.

Diagnosis, chronic appendicitis associated with bands. Jackson's membrane over the cecum and ptosis of the ascending and transverse colon. Bismuth in appendix.

Mrs. F. M., age 36. The history of this case I will not go into. I merely wish to say the above diagnosis was made and before her operation it was partly confirmed by X-ray plates which Dr. Keith has kindly consented to show you to-night. Before exposing the plates the patient was given bismuth enemata. Some of the bismuth found its way into the appendix. I believe it is possible from these plates to diagnose the site of the band to the appendix. It resembles very much the appearance of the plates showing bands attached to the pylorus.

At operation the appendix was found distended with bismuth. There was a band extending from the cecum to the appendix and a Jackson's membrane over the cecum. This membrane had its origin at site of the band which ran to the appendix and it spread over the cecum in the shape of a fan. The ascending colon was found dipping down into the pelvis and actually flexed upward. The transverse colon extended obliquely toward the left side of the pelvis, then flexed acutely upward to the beginning of the sigmoid. This case is of interest to-night because of the presence of the bismuth subnitrate in the appendix. Recovery was uneventful.

CONCLUSIONS.

From the study of the literature and of the three cases presented to-night I do not believe it is always possible to diagnose a foreign body in the appendix. The case showing the oxyuris was very typical of those described by Cecil and Bulkley. I have no doubt that they who have had an experience with 23 cases would have made the diagnosis because the subjective symptoms were out of all proportion to the objective findings. In the case of the coal in the appendix the severe stabbing, cutting pains are suggestive of a foreign body. The case having the grape seed imbedded in the fecolith gave no indication of their presence, the adhesions producing the dominant symptoms.

UTERINE MYOMA (18½ LBS.) AND GALL STONES (1150).

(REPORT OF CASES.)

By Jno. R. Wathen, Louisville.

These specimens which I present are exhibited more on account of their rarity than from any special pathological interest. The following is a brief history of the cases:

UTERINE MYOMA.

Mrs. P., age 42. First noticed tumor in abdomen about six years ago. Menstruation regular and had given birth to three children.

At no time had she complained of excessive hemorrhage during monthly sickness. Examination revealed a very large and movable tumor in the lower abdomen. Vaginal examination showed the cervix high up in the vagina.

While fibroid was suspected, the size and other symptoms led me to suspect the possibility of an ovarian cyst.

Operation revealed a large myoma without adhesions but wedged well into the pelvis. The enormous size of the specimen and the corresponding size of the blood-vessels made the removal more hazardous than with smaller sizes.

The tumor was removed in the usual way (Kelly method) of supra-vaginal amputation of the cervix.

Patient has made a nice recovery and is now able to get out of bed.

The weight of this myoma is 18½ lbs. and the woman from whom it was removed weighed 210 lbs.

In consulting the literature on uterine myoma I find that Kelly and Cullon, in their extensive monograph upon this subject, cite three cases of solid myomata weighing respectfully 22 lbs., 29 lbs., and 30 lbs.

They also record one case weighing 89 lbs., but this tumor had undergone cystic degeneration and the great weight was largely the fluid, as in ovarian cysts.

CASE II.—GALL STONES (1150).

This large number of stones was removed from a woman, Mrs. F., age 62 years. She had complained of chronic indigestion and failing health for some years. Pulse and temperature normal, and with little or no jaundice. Operation revealed a large gall-bladder filled with stones and dark, thick bile. These 1150 stones were removed with little trouble and the gall ducts explored but no more stones found and they seemed to have been confined entirely to the gall-bladder. It is surprising with so many small stones that some did not find their way into the common duct.

Patient has made a nice recovery and will soon be able to leave the hospital.

AN UNUSUAL GESTATION.

By J. K. Freeman, Louisville.

In April, 1911, I examined, at the request of Dr. E. R. Montgomery, a young woman about 20 years of age, married, mother of one child seven months old. I found her suffering with some pelvic trouble and a fractured coccyx. After a conference with Dr. Montgomery and the family it was deemed best to send the patient to a hospital for surgical treatment.

April 17, 1911, in the presence of Drs. Montgomery, Underwood, Lillard, Borgman, Joe Casper, and Bizot, the anesthetist; assisted by Dr. Simrall Anderson, I opened the abdomen by a median line incision and removed the ovary and tube on left side entire, ligating with the usual transfixation ligature. The right tube was removed after ligation with a transfixion ligature, one arm of which was brought around the tube and tied at the cornu of uterus, the other brought under the fimbriae above the ovary and made fast. About one-half of the right ovary was resected by a wedge-shaped incision and the tunica albuginea sutured over. The stumps of both tubes were sutured over with No. 1 plain cat-gut. The ligature used in tying being double No. 1 twenty-day cat-gut. After appendix was removed, the abdomen was closed in the usual way.

The patient was then turned on her side and a necrotic coccyx was removed.

She was put to bed and made a good convalescence. May 16 she left the hospital.

November 15 she came to my office. She had menstruated three times since operation; in June, July and August, each time quite scanty.

I examined her and found the uterus was enlarged and palpated a small mass in the neighborhood of the right ovary. Saw her again in January, 1912, uterus still larger and quite tender. Saw her again in March, and made a positive diagnosis of pregnancy.

Dr. Montgomery reported to me that on June 3, 1912, he delivered her of a normal child, labor quite tedious and painful.

The operative history of this case presents no unusual features, but the gestation history is exceedingly rare. A case in which a woman about 400 days after both tubes, one entire ovary and the greater part of the other had been removed, gave birth to a normal child should be classed among the anomalies and curiosities of medicine.

TYPHOID CARRIERS.*

By Arch Dixon, Henderson.

The medical profession—and I include under that general term national, state, and county boards of health and health associattions—to-day is facing one of the most important problems ever before presented to it. This problem is the eradication of germ carriers who, free from symptoms of the disease themselves, go about, innocently it may be, spreading these disease producing germs among their fellowmen, women and children, the source of epidemics which cause death, suffering and untold misery and unhappiness, to say nothing of the expense to individuals, communities, cities, counties, states and the nation at large.

Admitting that this is a fact, and none will deny it, "it is up to the medical profession to put forth its collective intelligence and deal directly with this great question which involves in a large measure the conservation of the peoples' health and strength." Certainly there can be no part of public health work which demands more thought and deserves more consideration than the prevention of the spread of typhoid fever. Recent investigations have proved beyond the question of doubt that many epidemics of this blighting and dangerous disease have their "fons et origo" from "typhoid bacilli carriers," persons who have recovered from attacks of typhoid fever and in some cases those who have never had the disease, continue to excrete, with feces and urine, typhoid bacilli for weeks, months and even years after recovery.

That the typhoid bacillus has the property of leading a saprophytic life in an organism which may or may not react to its presence is now fully recognized. Perhaps to Koch should be given the credit of calling attention to the necessity of supervision of typhoid cases, of typhoid convalescents, and ambulant and abortive cases. It was upon Koch's recommendation that bacteriological stations were established in southwest Germany for the study of typhoid fever the first of which was founded at Frier in 1903, under the supervision of Frosch. Later the number of stations was increased to 11, located at different places in southwest Germany. The workers at these laboratories have added and are still adding a great deal to our recent knowledge on the subject of typhoid fever and of the typhoid bacilli carriers.

In regard to elimination of typhoid bacilli during the course of the disease statistics by various writers have been given by Dr. J. C. G. Ledingham, of England, in the supplement to the thirty-ninth annual report of the local government board of England and Wales for the year 1909-10, containing the report of the medical officer. * * * The reports of Drigalski, Brion and Kayser and Bohne, although the findings vary somewhat, are very significant. The most trustworthy results obtainable are probably those of Gashtgens and Brückner from a series of 72 cases, where the more recently introduced methods were used. From their report it appears most likely that it is during the third week of the disease that the highest per cent. of typhoid cases eliminate typhoid bacilli in the feces. Most observers agree that in about 25 per cent of typhoid cases typhoid bacilli can be demonstrated in the urine. This bacilluria usually occurs during the later stages of the disease, after defervescence or during late convalescence, although it may occur at the time of the eruption of the rose spots.

"In any clear discussion of the carriers some sort of classification is evidently necessary since much confusion exists in the literature for want of a uniform classification for carriers.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

Conradi has adopted the following classification:

First Group—Primary Carriers: Those carriers in whom the infection has not led to symptoms including persons in the incubation stage of the disease.

Second Group—Secondary Carriers: Convalescents from typhoid fever who continue to eliminate bacilli for a period longer than ten weeks after the onset of the attack.

Third Group—Tertiary Carriers: Those carriers who continually eliminate bacilli after the primary attack.

Reviewed by R. M. Grimm, Assistant Surgeon, U. S. Public Health and Marine Hospital Service in 1911, from whose report I shall quote largely.

Sacquepee has recently suggested a more intelligent and comprehensive classification.

Group 1. Precocious Carriers: Those carriers in the incubation stage of the disease.

Group 2. Persons who have recovered from typhoid fever, but who continue to eliminate typhoid bacilli.

Sub-Group A. Convalescent Carriers: Those who cease to eliminate bacilli before the end of the third month.

Sub-Group B. Chronic Carriers: Those who eliminate bacilli for an indefinite period.

Group 3. Paradoxical Carriers: Those who have never had symptoms of typhoid fever, but who eliminate bacilli for an indefinite period.

For ordinary purposes, however, typhoid bacillus carriers may be classed into two great groups "temporary" or "transitory" and "chronic" carriers. The terms "temporary" or "transitory" carriers are applied to convalescents who cease eliminating typhoid bacilli before the end of the third month after the onset of the disease, while the term "chronic" carriers is applied to carriers who eliminate bacilli for an indefinite time.

In regard to the frequency of carriers there are various reports. "Lentz examined 400 convalescents and found 4.5 per cent carriers, 1.5 per cent temporary and 3 per cent chronic.

"Conradi in 400 convalescents found 6 per cent carriers, 5.5 per cent temporary and 0.5 per cent chronic.

"Klinjer in a series of 604 convalescents, found 11.6 per cent temporary intestinal carriers, 1.7 per cent urinary carriers and 1 per cent chronic carriers. He states that all the urinary carriers were cured by urotropin."

"Kayser and Brion, in a series of 101 persons, who had previously been discharged as typhoid-free, made examinations one year after the attack of typhoid fever and obtained a carrier percentage 3. This shows the great importance of late control examinations."

"Bruckner examined 316 persons who had had typhoid fever in previous years and found 3.8 per cent carriers; but if only adults were considered 5.2 per cent.

Probably the most thorough work on this subject is that by Semple and Greig, working in India. In their work, 86 typhoid convalescents were followed and bacteriological examinations of the excreta were made daily until the case could be classified. "They found that of the 86 convalescents 11.6 per cent eliminated bacilli for a period longer than six weeks after defervesence, i. e., chronic carriers." This is undoubtedly the highest carrier percentage recorded and is probably due to the elaborate routine and thoroughness of the work.

Many interesting points are found in the carrier statistics of the whole campaign conducted in southwest Germany, from its commencement to the end of 1907. "The period of three months was taken as the upper limit for the transitory carrier. Of the 431 carriers, 220 were chronic and 211 were transitory. Of the chronic carriers 80 per cent gave a history of an attack of typhoid fever, while of the transitory carriers only 43.6 per cent gave such a history.

The ratio of females to males among the chronic carriers was 5 to 1, while among the transitory carriers it was only 1.4 to 1. The majority of chronic carriers was among persons of middle age, the greatest number per five year age group occurring in the group 40 to 45 years. The majority of transitory carriers was among young persons, the greatest number appearing in the age group 5 to 10 years.

A definite diagnosis of gallstone disease was made in 13.6 per cent of the chronic cases. Of the chronic cases, 30 had their attack of typhoid fever from 4 to 30 years previously. In 42 of the chronic carriers a spontaneous cessation in the discharge of typhoid bacilli was noted, but these bacteriological cures should be regarded with great skepticism in view of the long periods of intermission which have been found to occur in carriers."

Frosch, in considering 6,708 cases of typhoid found that 310 became carriers, 144 transitory and 166 chronic. Females formed 80 per cent of the chronic carriers and 60 per cent of the transitory carriers. Children under 15 years of age formed only 4 per cent of the chronic but 35 per cent of the transitory carriers.

It was shown that children for a small percentage of the chronic carriers but their importance as transitory carriers has been repeatedly demonstrated. One interesting and instructive case is taken from a report by Rommerler, which at once illustrates the importance and danger of the carrier in the persons of young children.

The case cited is that of an 18-months-old suckling child, whose mother was taken ill with typhoid fever. The child was nursed by its mother for eight days after the onset of her illness and was then taken charge of by a neighbor. On the first day of her custody the foster-mother noticed that the child had a slight diarrhea, which she attributed to the necessary weaning. Seventeen days later the foster-mother developed typhoid fever. Within the next two months five other members of the household developed typhoid fever one of whom died. Six weeks after the slight diarrhea of the child its stools were positive for typhoid bacilli on two different occasions but negative on nine subsequent examinations. Its serum gave a positive Widal in a dilution of 1 to 100.

The presence of typhoid bacilli in stools during the incubation period has been demonstrated by a number of observers. Tables compiled by Conradi and Klinjer show in a high degree the infectivity of persons in the incubation stage of the disease. It is unfortunate that the period of the highest infectivity should occur at the stage of the disease when few or no precautions are being taken. In regard to the pathogenesis of the intestinal carrier state, it was known many years before the recognition of the typhoid bacillus carrier that typhoid bacilli could be isolated from the bile and from the upper portion of the intestinal tract of persons dead of typhoid fever. It was also known that typhoid bacilli could be isolated from the contents of the gall bladder and from the interior of gall stones of some cases operated upon for cholelithiasis. One such case was reported by Droba in 1899, where there was a history of typhoid fever 17 years before and another one by Cushing in 1898 where no history of typhoid fever was obtained. Short accounts of reports of similar cases are given, but in a few of them only is there any note of the bacteriological examination of the stools and urine. In these few cases the number of stool examinations was limited and no conclusions were drawn regarding the elimination of typhoid bacilli. Since the recognition of the carrier, bacteriological examinations of stool and urine have been made more frequently and with greater care.

In the relation of the carrier to the gall-bladder it is known that many carriers suffer from gall stones and that many others show a condition of cholelithiasis at operation or at autopsy, even though they may not have had symptoms pointing to this condition.

In 1892 Naunyn noted the frequency of gall stones in persons with a typhoid fever history, but Forester, in 1908, first directed attention to the association of gall bladder troubles with typhoid carriers. A number of cases are cited by this author which show the important relation of the gall bladder to the carrier state. The percentage of carriers who have symptoms referable to the gall bladder is much higher among chronic than among transitory carriers. Of 220 chronic carriers reported by Klinjer 13.6 per cent allowed a definite diagnosis of gall stones to be made. This corresponds closely to the 10 per cent of gallstone cases of all origin that present diagnostic symptoms.

Forester reports that in a series of 173 chronic carriers who were eliminating typhoid bacilli from 1 to 30 years after their primary attack, the ratio of females to males was 5 to 1. This corresponds closely to the ratio of gall-stone incidence in the female to that in the male, which is about 3 to 1.

The relation of the typhoid bacillus to the gall bladder has been made more clear by animal experimentation and by microscopic examinations of the walls of the gall bladder of infected persons. It has been found that after intravenous injections of typhoid bacilli into rabbits the gall bladder may harbor the organism for 109 days. In some cases the bacilli may be recovered from the gall bladder wall two hours after an intravenous injection. The observation has been made in these experiments that the bile may remain sterile and yet typhoid bacilli may be recovered from the mucosa of the gall bladder. It is by no means definitely determined in what way typhoid bacilli reach the gall bladder whether by the bile route or by its blood vessels. Experimental results seem to leave no doubt that the typhoid bacillus may and does play some part in the formation of gall-stones, but at present nothing definite can be said concerning its relative importance in this process.

However, in an editorial, *Journal of the A. M. A.*, February, 1908, under the head of "Infectious Diseases and Gall-stones" we find the following:

"The view that gall-stones are formed chiefly on account of local disturbances in the gall bladder rather than because of changes in the composition of the bile as secreted by the liver, which was so ably championed by Naunyn, has now come to be generally accepted as correct, and all the more recent studies of the etiology of gall stone formation seem to support this idea. Especially in connection with typhoid fever, gallstones have been found to result from acute inflammation of the gall bladder, and Halstead obtained a history of typhoid in one-third of his patients operated for gall stones.

Thanks to numerous careful studies of the bile in typhoid, and in cases of cholecystitis and cholelithiasis, the important role of the typhoid bacillus in the etiology of gall stone formation has come to be generally recognized."

Gould and Qualls, in a recent article, "A Study of the Convalescent Carriers of Typhoid Fever," *Journal of the A. M. A.*, February, 24, 1912, state that in making their investigation, "the feces, urine, saliva and in male patients, the prostatic fluid, were examined. The examination of the latter fluid was suggested by the report of Marchildon founded on two cases of prostatitis and seminal vesiculitis at autopsy.

Post mortem examinations were made on three of ten chronic carriers; the supposition that the gall bladder was the breeding place of the bacilli was confirmed. Post mortem examinations of four typical patients who died in the various stages of the disease were made. All had typhoid bacilli in their gall bladders. One cholecystitis patient gave a pure culture of typhoid bacilli and was found to be a carrier at operation. The bile contained a pure culture of typhoid bacilli. Bacilli had been isolated from the feces previous to the operation—he had had typhoid fever several years previously. "

Dr. Henry Albert in an interesting and instructive paper on "Typhoid Bacilli Carriers," read in section on Preventive Medicine, Iowa State Medical Society, May 11, 1911, says: "Typhoid carriers may excrete the germs with the feces or urine or both. It is quite certain they multiply in the urinary bladder. It is possible, also to conceive of the retention and multiplication of the bacteria in the various folds and pockets of the gastro-intestinal canal, more especially in such blind pouches as the appendix. The gall bladder, however, seems to be the place where the typhoid bacilli develop most frequently and in largest number. So constantly have the bacteria been found in the gall bladder of all cases of typhoid fever examined bacteriologically that it is quite probable that the organ becomes infected, in probably all cases of typhoid fever."

Reports of endemics and epidemics of typhoid fever which have originated from typhoid carriers are so numerous that I shall only call attention to a few which seem to me of more than passing interest. Dr. Albert, in his paper, states that, "In the fall of 1907, there was an outbreak of thirteen cases of typhoid fever in three families of a certain community in Cedar Falls, Ia. The water used by these people was from the general city supply. All of these used milk from one source, and theirs were the only families that obtained milk from this source. It was quite obvious, therefore, that the outbreak was due to this milk supply. Investigation showed that the man who did the milking had had typhoid fever one year previous and examination revealed the presence of typhoid bacilli in his urine. Hexamethyleniamin was administered, the bacilli could not be found for some time but one year later when several cases of typhoid fever again occurred among students boarding at his house, examination again showed typhoid bacilli to be present in his urine. He was ordered by the local authorities to discontinue the maintenance of a boarding house."

Wilbur A. Sawyer reports a case, *Jour. A. M. A.*, May 4th, 1912, of "A Typhoid Carrier on Shipboard." "An investigation just completed by the California State Board of Health, has traced twenty-seven cases of typhoid among sailors to a carrier in the crew of a lumber steamer. Four of the patients succumbed to the disease. This typhoid carrier is unique among those already reported in-as-much as he was a member of a ship's crew and infected a large number of his companions without having anything to do with the handling of their food. The danger from typhoid on this ship was so well known among sailors that the vessel was called the "fever ship" and it was difficult to secure desirable men for the crew."

Bernhuber relates—*Munchener Medizinesche Wochenshrift*, February, 1912, that a "boys' school has had a number of cases of typhoid fever in the last ten years, sixteen between 1907 and 1910 with three deaths and large sums of money were spent in perfecting the sanitary arrangements, but without eradicating the typhoid endemic. Three simultaneous cases in 1910 roused the authorities to make a bacteriological examination of all the inmates and the cook was found to be a chronic bacilli carrier. She had had severe typhoid fever-twenty-two years before and an attack of jaundice eight years later and had been in the employ of the institution since its opening. The cook succumbed not long after this discovery to heart disease, and typhoid bacilli were found in all the organs examined. During the years since her death the institution has been free from typhoid."

Albert cites a case reported by Gregg, of a keeper of a boarding-house in Massachusetts, who, after an outbreak in her boarding house, was examined and found to be a carrier with a history of having had typhoid fever in 1856—52 years previous. This is perhaps the most remarkable case as regards the duration of the "carrier" condition on record.

The treatment of typhoid bacillus carriers has been far from satisfactory. Up to the present time no sure method has been found for rendering the carriers typhoid free. "Spontaneous" cures have been reported but these results have to be accepted with great caution in view of the prolonged period of intermission of bacilli eliminated in some carriers and on account of the fact that bacteriological methods fall far short of perfection at the present time—minimal quantities of typhoid bacilli in a stool may easily escape detection when only a small proportion of it is used in an examination. Many drugs have been tried and found wanting. Salol, betanaphthol, calomel, bile and its salts, turpentine oil, sodium bicarbonate, chloroform and other drugs have only a temporary effect in decreasing the elimination of typhoid bacilli in the stools. One "cure" is claimed for sodium salicylate, when 3 to 5 grains were given daily at intervals for over a year. Lactic acid bacilli have been given with questionable results.

The surgical measures for the cure of carriers have been directed chiefly towards the gall bladder the main seat of vegetation of the bacilli. A number of cases have been reported in which the gall bladder was either drained or removed.

In general the results obtained were by no means encouraging. When it is recalled that at autopsy of carriers typhoid bacilli have been recovered from the liver, walls of the gall bladder, from the large bile ducts, mesenteric glands, and other organs the difficulty of the situation is at once apparent.

Typhoid vaccines and exposure of the gall bladder region to the X-ray have been tried but so far promise little. In regard to the treatment of the urinary carrier urotropin has seemed to have given the best results, but it has been noted that it has proved more efficacious in the treatment of the bacilluria of convalescents than otherwise. There can be no doubt of the fact that it does decrease the number of bacilli eliminated during its administration, but that they reappear in full force when the drug is suspended.

Semple and Gregg found urotropin of little or no service in their series . In a case reported by Niepratschk this drug was given a thorough trial with no permanent reduction of bacilli eliminated. Borovertin (hexamethylene tetramine triborate) was then tried in the same case with apparent success. Six grams were given daily for a month and seemed to have a remarkable disinfectant action on the urine. This case was considered a "cure" and one other "cure" without borovertin has been reported. Grimm thinks that borovertin should receive a thorough trial in the treatment of urinary carriers and should be given after a preliminary course of urotropin.

Treatment with vaccines from the homologous strain has met with some measure of success, especially when the urine has been made alkaline by the administration of sodium salicylate. As regards the diagnostic methods employed in the search for carriers, in an institution for instance a preliminary Widal test on suspected persons may give a line on a carrier, although the Widal cannot be entirely relied upon, Kayser states that 75 per cent. of carriers give a marked Widal. Ledingham thinks this percentage too high, if 1 in 100 be taken as the lowest dilution for a positive result.

Kamm found that four samples of blood from an asylum gave positive Widals, but he was unable to find the typhoid bacilli in the excreta of any one of the four persons who gave a positive Widal.

When carriers are being sought for and when facilities are at hand, the best method of procedure is to make systematic bacteriological examinations of the excreta, beginning with persons who give a typhoid fever history or who present symptoms of gall bladder trouble, Widal tests should be applied at the same time and special attention given to persons showing a positive Widal reaction.

The transference of the typhoid bacillus from a carrier to a new host depends upon the rate of elimination of bacilli, upon the personal hygiene of the carrier, and upon numerous other factors. A successful infection of the new host depends upon the size of the dose received, upon the degree of virulence of the organism and upon the susceptibility of the new host. The size of the dose of typhoid bacilli received is perhaps the most important factor in determining whether a successful infection will result or not. As to the virulence of the strains isolated from carriers, the same variations are found to exist as in strains isolated from acute cases.

The observations by Ledingham on guinea pigs show that the virulence of the strain of a typhoid bacillus in the same carrier may vary. He suggests that the virulence may be reduced during the winter months. Scheller thinks that a virulent strain may suddenly regain its virulence. The report of Scheller seems to show that the typhoid bacillus can exist as a saprophyte in the human body. Such instances, as has been said, may be cases of "symptomless" typhoid fever. Cases are reported which seem to indicate that trauma, pregnancy, etc.; may predispose to infection.

Conradi calls attention to the fact that strangers who come within the radius of infection of a carrier are more liable to infection than others, apparently on account of a lack of immunity. Davies and Walker-Hall think that only at certain seasons are secondary infections liable to result from a carrier, and that every carrier has a peculiar season of his own when he is most likely to cause secondary infections.

Regarding the relative number of cases of typhoid fever which are due to carriers, Kayser, in an analysis of 505 cases found that 9.5 per cent were due to carriers. Of 28 carriers discovered, 11 were known to have caused secondary infections in their neighborhood.

Forster found that 20 per cent. of his 386 cases were attributable to carriers.

Frosch found 4.11 per cent. of 6,708 cases of typhoid fever were due to carriers, and in another series of contact infections he found that one-fourteenth were due to carriers. Klinger found that 431 carriers had given rise to 351 cases of typhoid fever, 50 due to transitory and 300 to chronic carriers.

In considering these results it must be borne in mind that the carrier has received credit only for those cases directly infected by him, and it must be remembered that the importance of the carrier as a source of infection increases when those cases are considered which received their infection from his victims. The line of infection may be considered as a chain, the first link of which is the carrier himself.

In view of all this, what steps should be taken to prevent those who have had typhoid fever from becoming typhoid bacilli carriers and typhoid bacilli carriers from infecting others?

Most observers state that the opsonic index in carriers is relatively high and that the Widal is positive. Bigelow has this to say of the Widal reaction, "In a previous communication I have said that most carriers of typhoid bacilli have a persistent positive Widal agglutination reaction and suggested that this fact should be taken advantage of to trace the source, and if possible anticipate a typhoid epidemic. By this means in Worcester, in 1910, one carrier was discovered who initiated an epidemic of 213 cases of typhoid, and in 1909, the probable source of two other smaller epidemics was brought to light."

Grimm states that in searching for carriers, in an institution for instance, a preliminary Widal test made on suspected persons may give a line on carriers.

Could and Qualls say, "It seems to us that all typhoid convalescents should be examined before leaving the hospital and if found to be carriers should be asked to return from time to time for re-examination. They should also in our opinion, be carefully instructed as to how dangerous they are to people around them if they prepare or dispense food or drink in any way. As the average man is not a wilful murderer at heart, he would undoubtedly be anxious to follow instructions and would be glad to find himself pronounced a non-carrier after three or four negative reports have been made."

A routine bacteriological examination of the excreta of convalescents should be made in order to determine the time when they ceased discharging typhoid bacilli. When a carrier is discovered suitable treatment should be instituted in the way of diet. (A milk diet has been recommended) and otherwise, in order to encourage the elimination of all the typhoid bacilli and if possible avoid the chronic stage. In asylums and other institutions isolation is the simplest procedure. All carriers should be under supervision and should not be allowed to engage in any work necessitating them to handle or to prepare food—*dairy work included.*

All carriers should have individual articles which they use in every-day life, such as dishes, basins, towels, etc. Toilets used by carriers should receive regular and systematic disinfection and carriers should be required to disinfect their hands after each visit to the toilet. Thoroughly washing with soap and water suffices in carriers of some occupations, but if there is a possibility of the carrier handling foodstuffs an antiseptic solution should be used in addition. A solution of chinosol is both cheap and efficacious. Gaehtens recommends alcohol in the form of cologne or spirits of wine as a satisfactory disinfectant.

Taken by and large, the administration of typhoid vaccine both as a preventive of the fever itself and as a protection against carriers seems to give better promise than any other procedure.

Russell, *Jour. A. M. A.*, May 4th, 1912, "Results of Antityphoid Vaccination in the Army, in 1911, and Its Suitability for Use in Civil Communities," in his conclusions, says: "(1). Antityphoid vaccination in healthy persons is a harmless procedure. (2) It confers almost absolute immunity against infection. (3) It is the principal cause of immunity of our troops against typhoid in the recent Texas maneuvers. (4) The duration of the immunity is not yet determined, but is assuredly two and one-half years and probably longer. (5) Only in exceptional instances does its administration cause an appreciable degree of personal discomfort. (6) It apparently protects against the chronic bacillus carriers, and is, at present the only known means by which a person can be protected against typhoid under all conditions (?) (7) All persons whose profession or duty involves being with the sick should be immunized. (8) The general vaccination of an entire community is possible, and could be done without interfering with general sanitary improvements, and should be urged whenever the typhoid rate is high."

Gould-Qualls says, "If we profit by the success of our experience of vaccination against smallpox, and make typhoid vaccination compulsory also, for the good of the whole people typhoid fever will be a thing of the past and the typhoid carriers will cease to be a menace in civil life, as he has about ceased to be in army life. Until this time comes, as we firmly believe it will come, we wish here to urge that the carrier question be one that is carefully considered and that examination of outgoing patients be a routine procedure, as well as the subject re-examination; only in this way shall we be doing our duty in the prophylaxis of typhoid epidemics.''

Again I wish to emphasize the statement made in the beginning of this paper, that *it is up to the medical profession to put forth its collective intelligence and deal directly with this great question which involves in a large measure the conservation of the people's health and strength.''*

Personally, I believe that three-fourths of the cases of typhoid fever can be traced to carriers, and since it is impossible to eliminate or cure these carriers, there remains but one thing which can be relied upon to eradicate the fever and that is the general use of vaccines in civil life as it has been and is being done in the army and navy.

NEPHRITIS.*

By W. A. McKenney, Falmouth.

A diseased condition of the kidneys, one of the waste pipes of the system.

For the sake of studying the disease it has been divided into various classifications, the simplest being the best I think, into acute, chronic and interstitial nephritis and again into whether it involves the glomeruli or the parenchyma of the tubes or whether it involves the muscular structure.

I shall not say anything about the anatomy of the kidney, as Dr. J. Ed Wilson presented a very perfect and beautiful drawing of the kidney structure to our society a year or two ago and you are all perfectly familiar with the kidney and its structure. I can offer nothing new, only to bring out a few facts in the study of kidney diseases.

ACUTE NEPHRITIS—ETIOLOGY.

Cold, exposure to cold and wet is one of the most common causes especially after a drinking bout. Secondly, the poisons of specific fevers, such as scarlet, typhoid, measles, diphtheria, smallpox, chicken-pox, whooping cough, malaria, dysentery, lagrippe, etc.

Toxic agents, such as turpentine, cantharides, chlorate of potash, and carbolic acid.

Pregnancy, which may be due to toxic products, extensive lesions of the skin, as in burns, may be the causes of the disease.

CIRCULATORY DISTURBANCE IN ACUTE NEPHRITIS.

The changes that take place in the kidneys have their seat mainly in the cortex. They comprise increased vascularity and exudation into the urine tubes with swelling and later proliferation of the epithelium, or the same changes as occur in inflammation anywhere in the body. The vascular changes varies very considerably in different cases. In most acute cases of Bright's disease those which are suddenly induced, as from sudden exposure from cold the vascular changes are marked. In those cases the contraction of the cutaneous vessels and the check to the function of the skin caused by the chilling of the surface, lead to considerable hyperaemia of the organs. There is abundant exudation into the urine tubes. Many of the capillaries at the same time rupture and there is an escape of the blood corpuscles, and liquor sanguinis into the tubes of the cortex, hence the blood and blood casts in the urine which are so characteristic of the most acute forms of the disease.

THE EFFECTS OF THE RETENTION OF MORBID PRODUCTS ON THE HEART AND BLOOD VESSELS.

The poison which is not excreted circulates throughout the system and one of its effects is the irritation of the vaso-motor nerves of the blood vessels. This causes peripheral contraction of the smaller vessels. This causes an obstruction of the blood flow. This causes a rapid hypertrophy of the heart. The persistent spasm of the peripheral vessels causing increased arterial tension. This causes accentuation of the second heart sound. Increased blood pressure is one of the strong diagnostic points in any kidney disease and some ingenious devices for obtaining the blood pressure have been invented, such as Faught's mercury apparatus, Janeway's and Tycos' sphygmomanometer. Hence the first condition is one of congestion and engorgement. The symptoms are sudden onset—dropsy may be noticed within twenty-four hours. After fevers the onset is less abrupt but the patient gradually becomes pale and a puffiness of the face or swelling of the ankles is first noticed.

In children the first thing noticed may be convulsions. Chilliness or rigors initiate the attack in some cases, pain in the back and nausea and vomiting. The fever is variable, many cases in adults having no fever. In young children from cold or scarlet fever the temperature may range from 101 to 103 for a few days. The most characteristic symptoms are the urinary changes. There may be suppression at first; more commonly the urine is scanty, high colored and contains blood, albumen and tube casts. The quantity is greatly reduced and only 4 or 5 ounces may be passed in 24 hours. The specific gravity is high—1025 or more. The color varies from smoky to a deep porter, but is seldom bright red. On standing there is a heavy deposit. The albumen is abundant, forming a curdy thick precipitate. Anaemia is an early symptom. Uraemic symptoms develop in a limited number of cases. They may occur at first, but more commonly later in the disease. In scarlatinal form in which the glomeruli are most seriously affected, suppression is an early symptom and the dropsy is apt to be extreme and uraemic symptoms are common.

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*Read before the Pendleton County Medical Society.

DIAGNOSIS.

It is important to keep in mind that most serious involvement of the kidneys may show only slight oedema of the feet or puffiness of the eyelids without impairment to the general health. The first indication may be a uraemic convulsion. This is the case in acute nephritis of pregnancy. If it follows cold or scarlet fever the symptoms are more marked and the diagnosis is rarely in doubt. There may be cases in which albumen is either absent or only a trace and the anasarca be abundant. Tube casts are usually found and the absence of albumen is rarely permanent.

PROGNOSIS.

The outlook varies with the cause of the disease. Those cases that are caused by colds, more frequently recover than those after scarlatinal fevers. In very young children the mortality is high in at least one-third of the cases. Serious symptoms are; low arterial tension, the occurence of uremia and effusion into the serous sacs, the persistence of dropsy after the first month, intense pallor and a large amount of albumen indicate that the disease is becoming chronic. In scarlatinal nephritis if the dropsy diminishes and the urine increases within ten days and the albumen lessens and the dropsy has disappeared by the end of one month the case will likely recover.

TREATMENT.

The principles involved in the treatment of acute nephritis are (a) rest to the kidney; (b) prevention of the retention of the waste products in the blood; (c) treatment of the symptoms. The idea of rest to the kidney is carried out by giving such food to the patient as is known to make small demand upon the kidneys and the principal one is the milk diet. Experience has shown that the milk diet is very valuable in nephritis. Milk contains large quantities of fluid and it makes small demands upon the digestive functions. It contains small quantities of common salt, its nuclein is in the form of paranuclein and does not produce purin bodies in large quantities. The importance of sodium chloride in nephritis has been noted by a number of authors. Sodium chloride is the great regulator of osmotic processes in the body and excess of it in the fluid of the blood causes it to become hypertonic, and this results in a diminution of the excretion of water by the skin, the lungs, and possibly by the kidneys. Albuminuria and dropsy increase as a result. The great objection to giving milk in nephritis is found in the large quantity of albumen contained in a quantity sufficient to keep up normal metabolism. The large amount of urea, prosphates and other substances would increase the demands upon the functional activity of the kidneys and might do a great deal of harm. The large quantity of fluid given with milk may also be an objection to its use, in that rest to the kidney is not promoted by it. The albumens should be obtained from milk, chickens, eggs and vegetables. White meat is the only meat that should be given to patients with nephritis. The caloric value of food may be increased by fats and carbohydrates. In acute forms fruits should be forbidden excepting raspberries and grape juice and they on account of the absence of benzoic and oxalic acids. Alcohol should only be used as a stomachic and for debility of the heart muscle.

RELIEF OF RETENTION.

Diaphoresis is the most important method that can be used and it may remove from 20 to 50 per cent of the substances that are removed by the urine, by sweating.

Catharsis are of great value in nephritis.

Hydragogue-cathartics, such as jalap elaterium, and the salines remove and prevent water retention and various substances such as urea, uric acid, phosphates, and a large number of toxic bodies.

Diuretics should not be used in a routine way because the diseased organ is so stimulated that harm may be done, an exception is the use of digitalis; it acts by relieving circulatory disturbances.

Diuretics and caffeine should be used only in emergencies.

Calomel and jalap in large doses is the favorite of the older practitioners.

The patient should be put to bed and kept there for five or six weeks until the albuminuria has ceased and then if, on getting up, it comes back, he should be put to bed again. He should not exert himself. The temperature of the room should be kept equable, the skin should be kept thoroughly clean and when there is a great deal of dropsy the patient should take as little fluid as possible and the quantity of food reduced to a minimum. This rests the kidney and prevents harmful metabolic substances from being stored up in the circulation, but as soon as the uraemic symptoms begin to disappear and the quantity of the urine increases the quantity of the food must be increased, then with rest diaphoretics, cathartics and etc., we are able to cure a majority of cases.

The treatment of the symptoms follows the general rule, for the fever hydrotherapy should be tried. If antipyretics are used antipyrine should be used in the place of acetanilid. In vomiting minute doses of calomel given dry on the tongue, milk, lime water, water containing CO_2 and small doses of ice cold champagne may be given. Anaemia requires iron tincture of the chloride. The heart dilatation should be watched and treated as an acute myocardial insufficiency due to dilatation. The albuminuria should be treated with a diet free from salt and etc.

CHRONIC NEPHRITIS.—PARENCHYMATOUS NEPHRITIS.—ETIOLOGY.

Parenchymatous nephritis usually follows an acute nephritis of cold or scarlet fever, or pregnancy. It may come on insiduously, without any apparent cause or independent of an acute attack. Fevers play an important role in certain cases. Beer and alcohol are believed to lead to this form of nephritis. In chronic suppuration, syphilis and tuberculosis the diffuse parenchymatous nephritis is not uncommon. Males are rather more subject to it than females and it occurs more frequently in young adults and is common in children especially after scarlet fever.

CIRCULATORY DISTURBANCES.

In less acute cases the vascular phenomena are less marked and changes in the tubular epithelium are more prominent. The epithelial elements become swollen and granular. Many small cells are seen within the tubes and these have been supposed to be products of epithelial proliferation. It is probable that some of them are thus produced, but the majority comes from the blood vessels, owing to these changes the tubes become distended with cellular elements. Many of the tubes contain hyalin cylinders which consist of coagulated substances which have escaped from the vessels. The kidneys are always considerably increased in size and more or less abnormally vascular. The increased vascularity and epithelial change may subside and the inflammatory products pass away in the urine. The organ gradually returns to its normal condition. In other cases the condition continues and although the vessels diminish the vitality of the epithelial elements becomes so much impaired that they undergo retrogressive change. In this condition at first there is an increased blood supply and congestion. On the part of the cardio-vascular system there is a general increase of all the symptoms due to the retention of the morbid products. The poison that is not eliminated produces its poisonous effect which is to irritate the vasomotor nerves of the blood vessels. This causes a peripheral contraction of the smaller vessels. At once the flow of blood is interfered with. This causes increased action of the heart which brings about hypertrophy. The blood pressure is raised, causing an accentuation of the aortic second sound, high tension in the arteries is now measured by the sylpgmomanometer. This instrument is now coming into very prominent use. Taking the blood pressure will soon become a matter of routine. We may have renal disease following forms of cardiac disease. In dilatation of the heart. passive congestion of the heart takes place. The kidney very quickly becomes the seat of such congestion and chronic inflammation develops slowly. This may develop at the same time from a common cause as alcoholism, gout or endarteritis.

AUTOTOXAEMIAS OF CHRONIC PARENCHYMATOUS NEPHRITIS.

The toxic matter is retained in the blood and produces toxemia which may be acute or chronic. In acute uraemia the trouble develops suddenly and continues but a short time with active symptoms until death or recovery. In chronic uraemia the onset is gradual and may be limited to one or two conditions as headache or morning nausea or they may include more pronounced symptoms of uraemia. In headache the pain is usually situated in the occipital region and may extend down the neck. It is severe, or bursting character and may be associated with giddiness. It is often the first manifestation in both acute and chronic nephritis, numbness and tingling of the fingers are often complained of, delirium is sometimes complained of. It may be mild, and is usually the case in the typhoid state, or if a subnormal temperature prevails, it may amount to a true mania, melancholia and delusional insanity may develop after the violent nervous symptoms of uraemia pass off, convulsions may be the first indication of the disease of the kidneys or it may succeed in a few days a persistent headache, or follow uraemic vomiting. The convulsion resembles epilepsy. *Coma after the convulsions.* The mind may be restored or the patient lapse into a stupor followed by complete coma. Coma may develop without convulsion or immediately succeed a general convulsion. Headache or eye symptoms may precede coma. In some instances the patient lapses into a typhoid state in which the tongue is heavily furred and the breath is very offensive. There are other symptoms of coma not so general and not o fas much importance as those mentioned.

SYMPTOMS AND THEIR CAUSES.

In many cases it sets in insiduously after an attack of dyspepsia or failing health and loss of strength. The patient becomes pale and puffiness of the eyelid or swollen feet are noticed in the morning. The urine is, as a rule, diminished in quantity, often scanty, it has a dirty yellow, sometimes a smoky, color and is tubid from the presence of urates; on standing a heavy sediment falls which is composed of tube casts of various forms and sizes, hyaline, epithelial, granular and fatty casts. Leucocytes and red blood corpuscles, are frequently met with. Albumen may be abundent and may amount to 1-2 or 1-3 of the urine boiled. The specific gravity is high, 1020 to 1030. In the later stages it is lower. Urea is always reduced in quantity, dropsy is a marked and obstinate symptom of this form of the disease. The face is pale and puffy and in the morning the eyelids are oedematous. Uraemic symptoms are common, though convulsions are not as frequent as in the interstitial form. The pulse is tense and the second sound of the heart is accentuated. Retinal changes occur in a number of cases. Gastro-intestinal symptoms are common, vomiting is frequent, and a serious symptom and diarrhoea may be profuse.

DIAGNOSIS AND PROGNOSIS.

Chemistry has been invoked to a greater degree than any other methods recently in the study of the different forms of the disease. Metabolism, excretion and retention in acute and chronic nephritis has been extensively studied. In acute nephritis the retention of products of protein metabolism as shown by the quantity of nitrogen eliminated in proportion to the amount ingested is usually very considerable. This is evident in the earlier stages of the disease when the urine is very scanty, later when the urine becomes more plentiful the amount of nitrogen increases and it may be excessive for several days as though nature was trying to get rid of the surplus. In the chronic forms the nitrogen elimination is very variable for days and even weeks, there may be a well-marked retention of nitrogen amounting to four grams a day and this be followed by a period of profuse elimination. Prolonged retention does not seem to excite uraemic attacks. Diet does not seem to have much influence on the condition nor does the water ingested give rise to any considerable difference in the nitrogen excretion. Urea and anemia show the same variations as the nitrogen. Uric acid and the purins show very much less change. The organic salts, phosphates and sulphates are retained and eliminated in amounts parallel to that of nitrogen. This is not the case with the chlorides. From the standpoint of chemistry the question of the retention of the chlorides comes more prominently to the fore than in any of the other phases of nephritis. That chlorides are retained in cases of oedema and that increased elimination of chlorides appear at the time of the disappearance of the oedema are well established facts and in some cases where there is a permanent disability of the kidneys to excrete chlorides, we can greatly relieve the case by limiting the intake for a period. Albumen is the most important abnormal constituent of urine. The albumens are serum albumen, serum globulin and nucleo-protein. Albumen in the urine may be caused in the healthy kidney by dietary excesses. So when it is found we should not be satisfied with one examination but should make several, being careful to limit the diet. One of the greatest advances recently in the study of the kidney diseases is the functional test, not of so much importance as a diagnostic point, but more of a prognostic. Certain things have been used such as methylene blue, indigo carmine, rosanaline phlorizin, most recent is phenolsulphonephthalein. I shall try to describe the use of this last substance so that you can gain an idea as to the benefit of it. Phenolsulphonephthalein is a bright red crystaline powder, somewhat soluble in water and alcohol, but readily soluble n the presence of alkalies. It is non-toxic and is excreted by the kidneys very rapidly and appears in the urine in a few minutes after injection. In alkaline solution it is a brilliant red color.

TECHNIC.

Twenty minutes before administering the test the patient is given 300 to 400 c.c. of water, in order to secure free urinary secretion, otherwise time of appearance may be due to lack of secretion. Under aseptic precautions a catheter is introduced into the bladder and the bladder completely emptied, noting the time, 1 c.c of a carefully prepared solution containing 6 c. to the c.c. is accurately administered subcutaneously, intra-muscularly or intravenously by means of an accurately graduated syringe. The urine is allowed to drain into a test tube in which has been placed a drop of 25 per cent. hydroxide solution and the time of the appearance of the first pinkish tinge is noticed. In patients without urinary obstruction the catheter is withdrawn at the time of the appearance of the drug in the urine and the patient is instructed to void into a receptacle at the end of one hour and into a second at the end of the second hour. A rough estimate of the time of appearance can be made by having the patient void urine at frequent intervals without the use of the catheter. In prostatic cases you will have to use the catheter. When a catheter is to be used have your patient under urotropine. Add sodium hydroxide 25 per cent. to make the urine decidedly alkaline in order to elicit the maximum color. The color displayed in acid urine is yellow or orange and this immediately gives place to a brilliant purple, red color when the solution becomes alkaline. This solution is now placed in a liter measuring flask and distilled water added to make accurately one (1) liter. The solution is then thoroughly mixed and a small filtered portion taken to compare with the standard which is used for all these estimates. The excretions of normal individuals has been studied in hundreds of cases and it has been found to appear in the urine in from 5 to 11 minutes when given subcutaneously. From 33 to 60 per cent. being excreted in one hour after its appearance and 60 to 85 per cent for two hours in health. It is practically all excreted in two hours when it is given intramuscularly. Five to ten per cent more occurs the first hour following the intravenous injection. The drug normally appears in from 3 to 5 minutes and from 35 to 45 per cent is eliminated in the first fifteen minutes; 50 to 65 per cent. in the first half hour, and 63 to 80 per cent in the first hour. For general use the lumbar intramuscular method is the best. The technic of the test is simple. The injection is given. The time of appearance noted. The collection of urine made for one or two hours for each sample. Sufficient sodium hydrate is added to insure maximum intensity of color then the urine is diluted to one liter, a small amount filtered, the reading made and the per centage of drug excreted is calculated. In mild cases of nephritis the time of excretion may not be much delayed but in cases of marked changes in the kidney it may not show only a small per cent of the solution in the urine and in cases of ordinary severity the time of appearance has always been delayed and the amount excreted is definitely below normal in the most severe cases of chronic parenchymatous nephritis or those in which the disease is of long standing and associated with secondary sclerotic change the output is reduced very markedly and in some instances no trace of the drug can be found in the urine. Here also as in the interstitial type the absolute failure of excretion or the excretion of the mere trace has been followed within a short time by death from renal failure. So you can see that this is not only a good diagnostic but a good prognostic procedure as well.

PROGNOSIS.

The prôgnosis as to ultimate recovery is not good, however life may be greatly prolonged by good management. It seems to me that the test outlined above makes as near a correct prognosis as it is possible for us to make.

TREATMENT.

I have tried to outline a plan of treatment in the acute form of the disease and so will not go into it as fully as in the chronic. Essentially the same treatment should be carried out as in the acute Bright's disease. Milk or buttermilk should constitute the chief articles of food. The dropsy should be treated by hydrotherapy. Iron preparations should be given when there is anemia. Acetate of potash, digitalis, diuretin, Basham's mixture given in plenty of water constitute the principle drug treatment.

CHRONIC INTERSTITIAL NEPHRITIS.

Sclerosis of the kidney is met with as a sequence of the large white kidney. Pale, granular or secondary contracted as the result of arteriosclerosis. The primary form is chronic from the outset and is a degeneration of the kidney substance. In many respects it is only the gradual changes that takes place in extreme old age. In many cases no cause can be assigned. In others, hereditary influences are assigned. Syphilis and alcohol plays an important role in conjunction with other factors. Among the better classes it is very common and perhaps overeating has as much to do with it as alcohol. Intense worry, strain of business, combined with excessive eating and lack of proper exercise are all predisposing factors.

MORBID ANATOMY.

The kidneys are usually small, the capsule is thick and adherent, the surface of the organ irregular and covered with small nodules. Small cysts are sometimes seen, the color is usually a dark red and on section it is tough and resists cutting, microscopically there is great increase of connective tissue and regeneration of the secreting structure, glomerular and tubal. The arteries show an advanced sclerosis. The intima is greatly thickened and there are changes in the adventitia and in the media and increase in the thickness due to proliferation of the connective tissue in the latter coat at the expense of the muscular elements. Associated with contracted kidney are general arteriosclerosis and hypertrophy of the heart. The hypertrophy of the heart is constant and may reach an extreme degree and involves the entire structure.

SYMPTOMS.

The amount of urine is usually increased from two to four liters may be passed. Frequently the patient has to get up three or four times of a night to empty the bladder. There is increased thirst. The urine is clear, the mucus cloud is well marked, the color is a light yellow, specific gravity 1005 to 1012. This persistent low specific gravity is one of the most important features of the disease. Traces of albumen are found but may be absent at times, the solids of the urine are diminished, the pulse is hard, the tension increased, the persistent high tension is one of the earliest and most important symptoms of intestinal nephritis. Hypertrophy of the left ventricle occurs to overcome the resistence offered in the artery. The enlargement of the heart becomes more general, the apex is displaced downward and to the left, the impulse is forcible and heaving, the second sound at the aortic cartilage is very much accentuated, a very characteristic sign of increased tension; sudden oedema of the glottis may occur effusion into the pleura, acute pleurisy and pneumonia are not uncommon; bronchitis frequently occurs in the winter, sudden attacks of asthma, renal and cardiac may occur, dyspepsia and loss of appetite are common, vomiting may occur, diarrhoea severe, tongue coated, breath heavy and urinous, nervous system, headache of the migrane type, may be persistent symptom of Bright's disease, cerebral apoplexy is closely related to it, chronic Bright's disease is an incurable affection but patients have been known to live twelve to fifteen years with the disease. Serious indications are the development of uraemic symptoms, dilatation of the heart, serous effusions, development of Cheyne-Stokes breathing, persistent vomiting and diarrhoea.

TREATMENT.

Patients without local indications should so regulate their lives as to throw the least possible strain upon the heart, arteries and kidneys. A quiet life without mental worry and no excessive exercise, residence in an equitable climate should be recommended. They should keep their bowels regular, skin active by a daily tepid bath with friction and the urinary secretion free by drinking daily a definite amount of either distilled water or pleasant mineral. Alcohol should be prohibited. The diet light and nourishing. Care in food and drink is the most important element in the treatment of early cases.

MEDICINES.

Nitroglycerine for the increased tension, iron in large doses for the anemia; for the heart disease, digitalis, strychnia; dropsy, a morning dose of salts or calomel may be given; for the uraemic symptoms, saline purgatives, hot baths; convulsions, may use chloroform inhalation, free sweating, chloral and morphia.

TREATMENT OF TYPHOID FEVER.*

By A. E. Ferguson, Austin.

Isolation of Patients.—It is advisable to isolate typhoid cases as far as possible in hospitals, to keep them in special wards; in private families, the patient should be placed in the most quiet room of the house, and this should be large, light, and airy, if such a room is available. All unnecessary furniture should be removed. The doors and windows should be screened, during fly season, where wire screens can not be furnished, mosquito-netting answers the purpose very well, which can be tacked over the windows, and by placing a small pole in each end of the piece used for the doors, which may be hung by one pole being placed upon two nails placed in the door casing, one on each side, well above the top of the door, the other to rest on the floor at the bottom of the door.

Prophylaxis.—The best means we have of limiting the spread of typhoid is disinfection. Disinfection in typhoid may conveniently be divided into (a) that of the excreta (stools, urine, vomitus and sputum) (b) of the bed and its coverings; (c) of the patient and the sick-room.

The bacteria, so far as known, leave patients sick with the disease only in the excretions, urine, feces, vomitus and sputum. (M. P. K.) How long the bacilli can live outside the body depends largely on surrounding conditions.

Under the very best conditions they may live for months, but under ordinary circumstances, in competition with the other organisms in the stools, or the ordinary saprophytes with which the excretions become infected soon after leaving the body, exposed to the changes of temperature of the outside world, to the effect of sunlight, etc., typhoid bacilli die within a few weeks after leaving the body. Whether the bacilli can multiply in water is uncertain.

The important point as regards prophylaxis is that the typhoid bacilli does not thrive outside the body.

Disinfection of the Excreta.—(a) The excreta should be received in a vessel that can be thoroughly disinfected inside and out with any of the several standard solutions, and excreta should be thoroughly disinfected with either of the solutions, chlorinated lime (6z per gallon), bichloride of mercury (1-500); a 5 per cent. solution of carbolic acid; a 10 per cent. solution of formalin, etc., and best of all, heat. Of the above I usually advise the use of the chlorinated lime or carbolic acid, as you can't have the heat method applied in private houses.

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*Read before the Barren County Medical Society.

In some cases we are unable to use a vessel, as the condition of the patient would not be such as would allow the use of a vessel, or would pass the urine and feces involuntarily, in such cases we are compelled to receive urine and feces upon pads, which should be burned at once or boiled as the ease may require.

The sputum and vomitus can be received upon a small cloth which should be burned at once.

(b) It should be an invariable rule to change the bed and body linen daily, and as often as soiled.

The mattress should be protected by a rubber cover, if a rubber cover can not be furnished, a good piece of oil cloth answers very well for this purpose.

All the linen leaving the patient's bed or person should be at once boiled (30 minutes) or placed in some standard disinfectant, solution until it can be boiled later.

The rubber sheet, or oil cloth should be washed with a 5 per cent. carbolic solution.

When the patient leaves the sick-room the matresses are to be fumigated. All bedclothes should be boiled 30 minutes, the rubber cover is to be washed with a bichloride solution, 1-1000.

(c). After every stool, or when the urine is passed involuntarily, the patient should be cleansed with a compress of cloth or cotton wet with a solution of bichloride of mercury, 1-2000, or carbolic acid, 1-40.

The bed-pan is to be similarly treated, and the compress used should be burned immediately. All dishes should be boiled at once after leaving the sick-room.

Door-knobs, etc., touched with soiled hands should be washed with the carbolic or bichloride solutions.

The nurse should wash her own hands with soap and water and follow with a carbolic, 1-40, or bichloride, 1-40.

Every fly upon entering the sick-room should be killed immediately, and not allowed to escape if possible.

Only those necessary to attend to the patient should be allowed in the sick room, and no one should be allowed to kiss the typhoid patient while ill or after death.

No food or drinks of any kind should be allowed to set over in the sick-room, or left uncovered out of the sick-room. All water used for drinking purposes, or to be used in the cook room for cooking or washing dishes, milk-vessels, etc., should be boiled.

Treatment of the Attack.—As soon as the diagnosis is made, or suspected, the patient should be kept absolutely in bed, and not allowed to sit up under any circumstances, until the end of the attack.

A nurse should be employed if the patient can afford one. But we are many times forced to rely upon a number of persons, first and last, during the attack, to care for the patient. In these cases it is well to leave written directions regarding the disinfection of the excreta, and as to giving of the food, medicine, etc.

The sick-room should be cool and well ventilated, though free from strong currents; and perfect cleanliness both of the room and of the utensils employed in the management of the case should be attempted.

The linen should be kept smooth under the patient, and his back, hips and heels should be bathed frequently with a mixture of alum and dilute alcohol, and the patient should be turned gently to either side from time to time, in order to lessen the danger from bed sores and hypostatic congestion of the lungs.

The use of the bed-pan and urinal is an absolute necessity.

The nurse or attendant should wash the mouth and tongue several times daily with a mild antiseptic solution. (boric acid, listerine, etc.), the throat may be sprayed at equal intervals with a similar solution, by so doing obviate unpleasant complications. A frequent moistening of the lips and mouth, and particularly the lips, with glycerine and water, equal parts, gives great comfort when they are dry and parched.

The patient should have absolute quiet and rest. If possible the patient's friends should be kept entirely out of the room. The patient should not be allowed to feed himself or exert himself.

Men should not be shaved. He should not be allowed to read, or do any unnecessary talking. The hair should be cut closely early in the disease. In mild cases, however, this is not necessary. A record of the temperature and pulse should be made every two or four hours.

Diet.—The usually stated requirements of a typhoid diet are that the food should be that "digested with the greatest ease, leaving behind the smallest amount of residue to form feces." Milk has seemed to be the article best fulfilling these requirements. Next to this, pure egg-albumen has seemed most valuable.

During the course of the fever they receive only liquid nourishment, to be given every 2 to 4 hours. Alternating with milk (4z) the white of 1 or 2 eggs, depending upon physical development of the patient, the severity of the disease, etc. The more serious the condition, the smaller is the amount of nourishment given. If curds appear in the stools, the milk may be diluted 1-3 the amount with limewater, if they still appear the milk can be discontinued, and it may be replaced by other articles, watching for digestive disturbances.

Water.—Cole states that the severity of the symptoms is certainly lessened when the patients take large amounts of water, and that there is no limit to the amount which should be urged upon them. That it is advisable that the water be administered by the nurse as a routine and at very frequent intervals.

I have tried this plan of late and the patients seemed to do very well.

It is claimed that the ingestion of large amounts of water increase the digestion, and absorption of food, the excretions are stimulated, and toxins are eliminated together with the increased amount of sweat and urine. When given cold in large amounts it also acts as an antipyretic, the number of baths are reduced, nervous and intestinal symptoms diminished in severity, the complications are less frequent and the mortality reduced.

Intestinal Antiseptics.—Among the drugs which have been employed have been, bismuth, turpentine, salol, oil of cinnamon, calomel, eucalyptol, thymol, guaiacol carbonate, carbolic acid, iodin, salicylate of bismuth, sulphocarbolates, acetozone, naphthalin, formaldehyde, etc.

It is claimed that these neither destroy the bacilli nor counteract the ill-effect of their toxins, since both become active after they pass beyond the intestinal mucosa, it is also claimed that it is absolutely impossible to render the bowel sterile by any means at our command. Cole claims they have no place in the treatment of this disease, while Anders claims they are indicated in cases in which tympanites is a prominent manifestation. Some of the toxic substances occupying the intestines in this disease result from the acquired virulence of usually harmless organisms, and the amount of decomposable material is increased owing to defective hepatic and gastric secretions. Of the above list I use salol and turpentine, which has served very well to diminish fermentation, and the stools become less foul-swelling.

Treatment Directed Against the Fever.—So far no drug has been found whose antipyretic effect is superior to that which may be obtained by the use of hydrotherapy. This may be carried out by Brand bath, bed bath, sprinkling, sponge bath, cold pack, with ice-cap, etc.

In private practice we have to rely upon sponge baths, wet packs, etc., as we are not prepared to give the tub-bath. The patient should receive a bath every three hours if the temperature be 102.5 degrees F., or over, the bath should last 20 minutes or longer as the case may require. In one case I use the sponge-bath for about two hours before the temperature fell to 102.5 degrees F.

The beneficial influences claimed for the baths are, they absorb the body heat directly; improve the nervous symptoms, diminish mental dullness, delirium, stupor, muscular tremors and twitchings, induce sleep, strengthen the heart, stimulate respirations, renal function is invigorated and lessen the danger of bed sores.

Contra-indications to the Bath.—Hemorrhage, indications of intestinal perforations, or of peritonitis, phlebitis, cholecystitis, great prostration and cases seen late in the disease.

As we have no specific methods of cure for typhoid fever, we have to treat the patients as the symptoms arise.

Headache.—Early in typhoid the headache demands relief. Where rest with cold applications fail to give relief, natrii brom. grs. x-xv or phenacetin gr. iii-v, given three hours apart usually gives relief.

Insomnia.—It is important not to allow the patient to go too long without sleep. Where the cold baths with rest fail the bromides, sulphonal gr. x-x or veronal in v-x gr. doses usually will give sleep.

Delirium.—Usually where the baths fail, alcohol 1-2 -1 z one to three hours gives relief. Some cases may require some of the bromides, morphine, hyoscine, hydrobromate.

Vomiting.—Nausea and vomiting are most frequently of nervous origin,occurs most frequently in women and children. When occurring in association with abdominal pain and rise of fever, they usually indicate some serious lesion, but when chronic they may often be relieved by the use of some of the drugs used as gastric sedatives, such as one drop doses of carbolic acid or ipecac, Hoffmann's anodyne, minute doses of calomel, small pieces of ice and the use of the stomach tube, or stopping all food for twenty-four hours gives relief in some cases. I have had a few cases in which vomiting and nausea lasted from the beginning to the last of the attack, in spite of the above remedies.

Constipation.—Constipation is to be desired rather than diarrhea. The quieter the bowels are kept the better. The giving of laxatives or purgatives during the course of typhoid fever is not only unnecessary but harmful. If the case is not seen until the end of the first week, or later, the initial dose of calomel had better be omitted.

If the bowels fail to move, it is well to clean the lower bowel out every second day with a small soapsuds enema. During latter stages, if there is any tendency to marked constipation the enema had better be given daily, to prevent fecal impaction.

Diarrhea.—First attention must be given to the regulation of the diet. The stools should be examined and, if they contain curds, the milk should be more diluted with lime-water or stopped and replaced by whey. If the diarrhea still continues, it is well to stop all food for 12 to 24 hours, and bismuth sub.

nitrate, grs. xxx-lx; sulphocarbolate of zinc, grs. ii-v, usually gives relief. Tr. opium, Dover's powders, morphine, Plumbi acetatis may be given 3 or 4 hours apart.

Meteorism.—Meteorism in a very mild form is not a serious complication, but in the more severe forms is an indication of extreme toxemia and of paralysis of the bowel. It is said, the time to treat meteorism is when it is in the very mildest grade or before it begins, as after it becomes marked we are often entirely helpless and unable to relieve it. To prevent meteorism, I have used salol 2 1-2-5 grs., every 4 hours with turpentine x-xv m., three times daily, and I have never been troubled with meteorism very much in typhoid, unless complicated by peritonitis.

If meteorism arises in moderate degree is can often be relieved by stopping the food entirely, and the use of turpentine stupes (zss-1qt), use very hot, and frequently changed so that the skin is made quite red. Turpentine may also be given by the rectum 1-2-1z in large enemas of warm water, passing the rectal tube as high up in the bowel as possible and leave it for a time gives some relief. In serious cases eserin, 1-150-1-50 gr. hypodermically may be tried. Oil of cinnamon, 3 to 5 m., every two hours, charcoal, bismuth, and beta-naphthol have been recommended, but, as they tend to diminish intestinal peristalsis, it is doubtful whether they do more good than harm. Gastric distention may be relieved by passing the stomach tube.

Retention of Urine.—This should be relieved by hot wet stupes over the lower abdomen and a hot enema should be given, catheterization should be done as a last resort.

Cardiac Symptoms.—In cases where the pulse becomes progressively more rapid and irregular, strychnin, 1-60—1-20 gr., every 4 hours; whisky or brandy, 1-2 to 1z every 2 to 4 hours may be given.

THE TREATMENT OF COMPLICATIONS.

Skin Lesions.—Furuncles and abscesses should receive surgical treatment as soon as discovered.

Bed Sores.—Any points which show redness or signs of pressure should be supported upon air-rings, if there occurs a breaking of the skin, it should be irrigated with a boric acid solution or hydrogen peroxide. It should then be dried, and dusted with bismuth or boric acid, etc.

Arterial and venous thrombosis should be treated by keeping the involved extremity perfectly quiet and elevated.

Bronchitis, pneumonia, or pleurisy should be treated in exactly the same way as though occurring independently.

Meningitis.—Lumbar puncture every second day has been recommended.

I have had only one case in which meningitis was a complication. I did not do a lumbar puncture. I relied upon the bromides and kalii iodid. The patient recovered after about four or five weeks after the meningitis came up.

Intestinal Perforation.—Diagnosis being made, operation should be performed at once, which will save from 25 to 50 per cent. of these cases. I have met with this complication in two cases, first was a girl 15 years of age, it came up in the sixth week of her illness. She was taken suddenly on July 29th, 1907, at 6 a. m., with a severe pain in the bowels. I saw her at 10 a. m., she was suffering from shock. I advised an operation, but was unable to get the father to consent for an operation. So I placed her in Fowler's position, gave heart stimulants, and morphine hypodermatically with hot turpentine stupes over the bowels. She died July 31st, at 9 p. m. with a general peritonitis. The second case died of peritonitis 82 hours after the perforation.

Intestinal Hemorrhage.—In the Johns Hopkins Hospital, hemorrhage occurred in 7.8 per cent. of 1500 cases, and in 0.8 per cent., death resulted directly from the hemorrhage. With the first sign of hemorrhage, all nourishment and water should be stopped. The patient should be kept absolutely quiet and on his back, not allowed to be lifted on the bed-pan. He should pass the urine and feces into a draw sheet which may then be removed. The baths should be discontinued. The ice-bag may be applied over the abdomen.

If the patient is very restless morphine should be given hypodermically.

The drugs which are employed for their hemostatic purpose are, tr. of chlorid of iron. turpenine, 10-15 m every hour in a mixture with mucilage and peppermint water, lead and opium, hydrastus, ergot, adrenalin and a number of others.

Calcium lactate and calcium chloride, 20 to 40 grs. given every 4 hours is said to increase the coagulability of the blood.

I have seen only two deaths from hemorrhage. The above seemed to be of no effect in these two cases.

Relapse differs in no way from that of the original, as to treatment.

CONSERVATION OF HEALTH.*

By W. L. Mosby, Bardwell.

Health is essential to happiness and prosperity and methods for its conservation should be esteemed of greatest interest to you. Knowledge is impotent to improve our social and hygienic condition unless we accept its teaching and hasten to apply its principal to ou rdaily lives for our mutual improvement.

Science is like unto a "candle" and you must get within her "halo" if you would see her glory and share her benefits.

Have you ceased to discuss the great flood disaster that has so recently swept our great valleys and destroyed millions of dollars of property and hundreds of human lives and have you recovered from the shock of the Titanic catastrophe carrying death and destruction in its wake? These tragedies excite our sympathy and attract our attention no matter how busy we are and our great nation and that of England has hastened to investigate the cause of the latter and take steps to prevent a recurrence of the tragedy and Congress has liberally appropriated to relieve the distressed flood sufferers and to strengthen the walls to keep out the water that swept the fertile valleys that lay in ruins, very properly and wisely. This investigation and effort to prevent such reckless sacrifice of human life and property is commendable and should be utilized by all countries to safeguard their people in the future, but have you stopped to think that we are daily sacrificing more lives and property by our indifference to the deadly ravages of tuberculosis claiming 1-7 of the entire human family and 1-3 of all that die between the ages of twenty and forty years of age die of this great "white plague," the common enemy to human life and happiness.

"We sigh for the touch of a vanished hand,
And the sound of a voice that is stilled."

That the most valuable asset of any community is her citizenship, there is no denying, yet its proper conservation is woefully neglected. You look well to your stock, by proper food, shelter and isolation from contagious disease, should it appear, and how freely, yes enthusiastically, you cooperate with officials or others to eradicate its presence or stay its destructive march when preperty interests only are involved, but how about conditions effecting your family, the sacred inmates of your homes, for whose custody you are the sole responsible guardian? Do you lend every possible cooperation when diseases that are conveyable invade the home of your neighbor, or your own domicile, to suppress its spread, or do you ignore the instructions of the physician or health officer in charge, who has a double responsibility, as sacred as it is important, to treat the sick and to protect the well?

The financial interest of the physician would be favored by the spread of all diseases but his greater duty to humanity and the sacred mandates of his honored profession prompt a broader conception of duty to his fellow man. One year's operation of the Vital Statistics Law in Kentucky shows a death list of 30,000 for 1911, a fact never known before, and further that 12,000 were from preventable diseases, and of this number 5,000 deaths were due to tuberculosis in the State of Kentucky only, in 1911. New York City had a death rate of 20 per one thousand ten years ago, and in 1911 it was reduced to 15 per one thousand, due to improved sanitation and preventive medicine.

The greatest triumph of the twentieth century is that of preventive medicine, as by its illuminating knowledge, gained by reasearch and investigation, as applied to the transmission of malaria and yellow fever by the mosquito, renders their management scientific and easy. Plague is known to be transmitted by the fleas that invest rats and other rodents. Typhoid fever is often carried by the house fly and lately pellagra has been assigned to the sand fly, as the intervening host, and the method of transmission to man. Hookworm and hookworm disease has been discovered and its cure made easy by scientific research and study.

Antitoxine marked an epoc in preventive as well as curative medicine, by saving thousands of children annually from premature death from diphtheria, lowering the death rate largely in cities.

Typhoid fever is now prevented by vaccination, like small pox has been for many years, so much so that only one cases occurred during the recent mobilization of our national troups on the Mexican border, and that was due to previous infection before entering camp and no other case followed. England, France, Germany and the United States recognize its prophylactic value and now vaccinate all recruits on entry of service.

Tuberculosis is claiming too large a toll of our young life and this is largely the fault of not applying the principals of prevention and securing full and complete cooperation of patient, family and physician in care and management of patients.

It is especially important that the physician recognize the disease early and that he so inform the patient and family that full cooperation be had to secure the best results.

Its curability is not now disputed and its prevention is our careful duty. In Farmingdale, N. J., has recently been established an institution called a "Preventorium" that promises to accomplish much for those inclined by faulty development or tendency to tuberculosis and many of the factory and shop children of no or poor parentage may avail themselves of its benefits.

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*Read before the open meeting of Carlisle County Medical Society.

Prevention is easier than cure, hence our efforts should be well directed to secure these benefits. Marriage of physically debilitated and incipient cases should be discouraged when known. Weakly children, and those of suspicious physical ancestry, should be watched to avoid the inception of tubercle bacillus. Pupils in common school should be taught as well as the public by means of tracts, lectures, reprints and circulars on hygiene and sanitation, how to avoid infection and thereby protect themselves and others from this great white plague.

The chief source of danger is from the expectorated matter of consumptives, which contains the germs, or seed, of the disease in countless numbers more dangerous than visible, and more so after having dried. The germs may be constantly found in the air and dust from carpets, walls and furnishings of rooms occupied by consumptives, where every precaution is not taken to collect and disenfect such sputum as fast as expectorated.

Most patients constantly reinfect themselves by failing to destroy their own sputum, and other susceptible persons inhaling the air of such rooms are exposed to constant and serious danger of infection. Public buildings, halls, school rooms and railway trains exhibit the same grave dangers where not properly and regularly disinfected by skilled sanitarians.

Individuals should have their own drinking cups and children should be taught to use them exclusively and to avoid the pernicious habit of eating or drinking after others, as physical appearance does not always indicate the presence of this dire disease and, indeed, many equally harmful and dangerous diseases may be contracted in this same thoughtless way.

A few of the rules promulgated by the State Board of Health for the care and observance by consumptives will not be out of place here; 1. Every person with a habitual cough should have a microscopical examination of the sputum made by a competent bacteriologist, (and that is now done free by our State Bacteriologist, and your family physician will instruct and assist you in obtaining same).

2. Every particle of sputum should be collected upon soft paper and burned, or received into "spit cups" or cuspidors containing a solution of chloride of lime, four ounces to the gallon of water, or other disinfectants of equal strength, and such cuspidors should be washed daily with boiling water.

3. Room occupied by such afflicted persons should be large, well ventilated, with an open fireplace if possible, and no one should share the room with them, especially unless all sputum collected and destroyed as before stated.

4. They should live in the open air under instructions given above.

5. Weak and broken down people are especially vulnerable to the disease germs, hence attention to the general health, by properly developing the lungs and chest and keeping them strong and well. Exercise in the open air, fresh air in bed room, gymnastics, frequent sponge baths, with massage of chest, deep breathing, proper food and clothing.

6. Sanatoria for isolation and humane care of consumptives who can not properly and safely be treated at home, exist in many states and are greatly to be desired, contrary to public opinion a large per cent. can and do recover under favorable conditions.

7. No person should take a room perviously occupied by a consumptive until it has been thoroughly disinfected with formaldehyde or sulphur gas, three pounds of the latter made moist with alcohol burned in a room containing 1,000 cubic feet of space, securely closing all flues and openings. Walls and woodwork, etc., should be thoroughly disinfected by painting or washing with soap and water or some well-known disinfectant.

8. Milk and meat from tuberculous animals should not be used, and if used the former should be boiled and the latter well cooked. This is more important for children.

With proper precaution they may mingle with other people but all cases should be reported to the health officer that he may assist in preventing its spread, etc.

Patients not only should have separate sleeping apartments fully ventillated, but should avoid kissing or fondling with members of the family; and all dishes used by the tubercular should be thoroughly sterilized, and all sputum gathered in a suitable receptacle and burned.

Infection through the food supply and more especially the meat of cattle thus affected or the milk from tuberculous cows is now recognized as a source of infection more especially of the intestinal form in children, hence the greatest care should be exercised in the slection of the milk supply.

The disease once developed the patient is better cared for in a well-managed sanatorium and the source of danger to others being thereby deminished and his chances for complete recovery much increased.

The following conclusions may well guide us in the care of the tubercular patient:

1. The early diagnosis of pulmonary tuberculosis.
2. Treatment in a nearby sanitarium when possible.
3. A sensible diet and no forced feeding.
4. The stay at the sanitarium should be long enough to arrest the disease thoroughly.
5. Unless some unfavorable condition should prevent, the patient should return to the occupation to which he is used.

You may say we have no available sanitarium, you are quite correct; but modern civilization demands that we should have.

The Committee on Anti-tuberculosis of our State Medical Association recommends: "The object is a well-planned, up-to-date tubercular infirmary, in each county of the State, built by each county, and with laws that will secure protection of patient and people from further spread of the disease, and with facilities for treating the curable, and for caring for the incurable."

Our county should utilize the full service of a competent physician, trained in sanitation, as health officer, and pay him full time, instead of $150 per year, as we now do. "No man can serve two masters." Neither can a well qualified sanitarian discharge the duties of health officer without adequate compensation, as he must of necessity devote sufficient time to his private practice to obtain his living. These duties well performed are worth more to our people than those of any other officer of our county, and should be so recognized, by our people.

We have the best that our health officials can secure under present conditions. Our health officer should serve all the people all the time, visit and inspect schools, instruct the pupils in personal, home and school sanitation, receive reports of all communicable diseases, superintend quarantine, make and keep sanitary surveys of the county, and discharge any other duty pertaining to the health of our people. He should be in absolute control of all health matters and receive full cooperation of all citizens and practicing physicians to improve the health and prevent disease among our people.

"To save a life is great gain,
To save a life is our air."

REPORT OF A CASE OF MEMBRANOUS CROUP.*

By J. S. Greenwell, New Haven.

This is a case which occurred in my own family. Richard, age 18 months. On January 6, about ten o'clock he awoke with what I thought to be simple catarrhal laryngitis, which kept him from sleeping most of the night, but the next morning he was up playing and seemed as well as usual during the next day, with only occasionally a croupy cough. By 9 o'clock the following night he was as bad, or worse than the previous night, sleeping only from 2 to 5 minutes at a time, seeming as if he would choke to death. I gave him an emetis twice during the night with no improvement. On the morning of the 8th I called in Dr. Mudd. At first he thought it only simple croup, and would pass off as on the previous day, but after remaining with him about an hour we decided we were dealing with a case of membranous croup. We at once gave him 5000 units of antitoxin, repeating the dose in the afternoon with 3000 units.

The child was gradually growing worse so Drs. Heizer and McChord were called, then we decided that an intubation was necessary, which Dr. McChord did. The tube staying in about ten hours, being coughed up, as the case was complicated with bronchitis. Dr. McChord replaced the tube four times within the next 48 hours. We were in difficulty as what to do, with Dr. McChord being 22 miles from us, and the child coughing up the tube every four to six hours, turning black in the face each time. I asked Dr. Mudd if he would make an attempt to insert the tube to which he consented to do, being very successful at first attempt. From this time on, he had to replace the tube from one to three times each day. On the 16th day of the disease we were able to leave the tube out.

We began with a tube for a year old child, increasing in size until at last he was wearing a tube for a four year old child. During this time the child seemed not to lose much strength, being able at all times to pull up by the bed. We used very little stimulant during the attack, the heart did not seem to grow weak at any time. I think this was due to the large and often repeated doses of antitoxin.

He recovered without any paralysis in any part of the body. He could talk about as well as he did before taken sick.

Going back to the antitoxin, I will give you the amount used each day:

January 8, 5,000 units in the morning; 3,000 units in the afternoon.

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*Read before the Nelson County Medical Society.

January 9, 5,000 units in the morning.
January 10, 5,000 units in the morning.
January 11, 5,000 units in the morning.
January 12, 5,000 units in the morning; 5,000 units in the afternoon.

January13, 5,000 units in the morning; 5,000 units in the afternoon.

January 14, 5,000 units in the morning; 5,000 units in the afternoon.

Total of 48,000 units.

The following physicians were called in consultation: Drs. Mudd and Heizer, New Haven; McChord, of Lebanon; Barbour, of Louisville, and Greenwell, of Bardstown.

BOOK REVIEWS

Internal Medicine.—By David Bovaird, Jr., A. B., M. D. assistant Professor of Clinical Medicine in the College of Physicians and Surgeons of Columbia University; with 109 illustrations in the texts and 7 colored plates. Published by J. B. Lippincott Company, Philadelphia. This volume supplies to physicians a need that has existed for a long time for a full and clear exposition of the problems of internal medicine. Diseases of the circulatory system are treated in a remarkably clear manner; diseases of the lungs and intestines are given special prominence and treated in a practical way. The discussions of the ductless gland are of special value. The chapter on general care of the sick with standard dietary list adds greatly to the value of the work. Published by Lippincott. Price $2.00.

Volumes 4, 5, 6 and 7 of the Practical Medicine Series—Published by the Year Book Publishers, Chicago, present articles by Dudley and Bachelle, on Gynecology; DeLee on Obstetrics; Billings Salisbury on General Medicine; Abt and Ridlon on Pediatrics and Arthopedic Surgery. These volumes meet their usual degree of value and form an invaluable addition to current literature of medical advancement.

Arteria Sclerosis, Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment with Special Chapters on Blod Pressure—By Louis M. Warfield, A. B., M. D., and published by D. V. Mosby & Company, St. Louis, Mo. Price $2.50. This is a splendid discussion of this condition and is concise and clear enough in its texts and illustrations to serve the needs of the busy doctor.

Principles of Hygiene—For Students, Physicians, and Health Officers. By D. H. Bergy, M. D., First Assistant, Laboratory of Hygiene and Assistant Professor of Bacteriology, University of Pennsylvania. Fourt edition thoroughly revised. Octavo of 529 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $3.00 net.

The mention of the word hygiene, at once brings before the mind the name of Dr. Bergey, for his hygiene has long since taken its place among the books really worth while. As usual, this new edition has been thoroughly revised, much new and important matter being added to it. Especially has the chapter on Immunity been recast in the light of modern knowledge. This, too, is true of the chapters on Water and on Sewage Purification, and on the methods of preventing diseases, particularly Typhoid Fever and Dysentery. The wide discussion which the subject of Hygiene is now receiving, both by the medical and lay press, makes it essential that every doctor have a good book on this subject. Mastitis, Recurrent Ovarian Cystosarcoma, Retroversion of Uterus, Rectocele and Perineal Laceration, Ununited Fracture of Shaft of Right Humerus, Osteitis Fibrosa Cystica of Righ Humerus, Ankylosis of Left Elbow, Ankylosis of Right Hip-joint.

Mother and Baby.—Helpful suggestions on all Important Subjects Connected with Motherhood and the Care of Little Ones. By Anne B. Newton, M. D., Illustrated from Photographs Chosen by the Author. Net, $1.00. Postpaid, $1.10.

The author is to be congratulated on having given to the family and the nurse much valuable information and advice in the care of both mother and child. The chapters on hints to parents, clothing and care of the baby, and the nursery and the nurse are particularly important. The book is written in a most attractive and convincing style, and every family should secure a copy and become familiar with its many practical suggestions.

A Text-Book of Obstetrics.—Including Related Gynecologic Operations. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pensylvania. Seventh Revised Edition. Octavo of 1013 pages, with 895 illustrations, 53 of them in color. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $5.00 net; Half Morocco, $6.00 net.

It is a pleasure to review such an excellent and orderly book on Obstetrics as is Dr. Hirst's. This edition, as indeed as has been every previous one, is a sane exposition of modern obstetric thought. Dr. Hirst has adhered to the policy of including diseases of women as a necessary part of obstetric practice. This course is, from every point of view, to be commended, as the consequences of child birth constitute a very vast majority of the disease of women.

An innovation on this condition is an extensive chapter on diseases of the breast. The material in this chapter is based on actual clinical experience as head of the Obstetric Department of the University of Pennsylvania, with from three to four thousand maternity cases a year. Such a wealth of clinical material certainly stamps this chapter as one of the very best ever written, because it is written from a really practical standpoint. The breast pictures in colors are the most beautiful we have seen. We really believe there is no better book on Obstetrics in the English language—certainly none at so low a price for the value received.

Infant Feeding.—By Clifford G. Grulee, A. M., M. D., Assistant Professor of Pediatrics as Rush Medical College; Attending Pediatrician to Cook Count yHospital. Octavo of 295 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $3.00 net.

Dr. Brulee has in this volume set forth a very Feeding. He considers every kind of a babe and every description of baby foods, both natural and practical exposition of the science of Infant artificial. We are glad to note the emphasis• he places upon the use of "the proprietary infant foods." He maintains that if used with due regard for the condition for which indicated in conjunction with cow's milk, that they are of value as adjuvants and no more, and then only when composition is known.

As generally used at the present day, he condenses the whole system of feeding therewith. As a working text, we prophesy a ready sale, and recommend the work as conservative and full of up to date information.

The Collected Works of Christian Fenger, M. D.—Edited by Ludvig Hektoen, M. D., Professor of Pathology at Rush Medical College. Two octovo volumes averaging 525 pages each, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Per set: Cloth, $15.00 net; Half Morocco, $18.00 net.

It is with reverence that we express our deep appreciation of the collected works of Christian Fenger. No greater tribute could have been rendered to this great and wonderful man than by this publication, issued under authority of the Directors of the Fenger Memorial Association. Dr. Coleman G. Buford collected the material and Dr. Ludvig Hektoen has acted as editor. The two volumes contain practically all of Fenger's writings, and his numerous students and colleagues will be grateful to the association for enabling them to secure them in this way.

A Collection of Papers (Published Previous to 1909).—By William J. Mayo, M. D., and Charles H. Mayo, M. D. Two octavo volumes, averaging 550 pages each, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Per set, cloth, $10.00 net.

This collection of previously published papers is practically a biography of the professional life of the Drs. Mayo. They are also in a more limited sense a history of certain branches of surgery, covering the twenty years from 1885 to 1905. The volumes wil be of interest not only to many who have had a personal conection with the now celebrated Mayo Clinic, but will also serve as a valuable work of reference in research work and in the study of the individual case. The volumes are gotten out in the admirable style of the Sounders press—good paper, clear and easily read type, and strong binding.

Collected Papers by the Staff of St. Mary's Hospital (Mayo Clinic) **for 1911.**—Octavo of 603 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $5.50 net.

We have here fifty-five papers written by twenty-three members of the staff of St. Mary's Hospital, Rochester, Minn. The papers are classified as those dealing with the Alimentary Canal, Hernia, Genito-Urinary, Ductless Glands, Thorax and Extremities, Technique, General Papers and A Memorial Sketch of Dr. Mayo, father of Drs. W. J. and C. H. Mayo. So well known has the work done by the Mayos and their assistants become, that little need be said regarding the excellence of the papers comprising the present volume. There is something in the volume for everybody. Those who are the possessors of former volumes will welcome the appearance of this collection.

Surgical After-Treatment.—By L. R. G. Crandon, Assistant in Surgery at Harvary Medical School and, Albert Ehrenfried, M. D., Assistant in Anatomy at Harvard Medical School. Second edition, practically rewritten. Octavo of 831 pages with 264 original illustrations. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $6.00 net; Half Morocco, $7.50 net.

Up to the present time there has bee na conspicuous scarcity of books on the subject of surgical after-treatment. The experienced surgeon worked out his own method and by frequent exchange of experience with his confreres developed a more or less routine technic. But when he encountered the unusual case and wanted the testimony of many men of broad experience, and wanted that information quickly and concisely, he had nowhere to turn. To the beginner the situation was far more trying.

In the "Surgical After-Treatment" the surgeon has just what he needs in the "hour of necessity" and he has it right to the point. It is not the experience of any one man but the consensus of experience of hundreds of our best operators.

From the first chapter on "The Sick Room," "Posture" and Nurse's Chart to the last chapter on Invalid and Convalescent Food Receipts, it is full of practical helpful instructions on the after-care of surgical patients. The paper, binding, print and illustrations are in the uniform style of Saunders' excellent workmanship.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. BOWLING GREEN, KY., FEBRUARY 1, 1913 No. 3

EDITORIAL.

COOPERATIVE RESULTS.

The *Journal of the American Medical Association* for January 4th contains the following editorial comment on the Kentucky Bureau of Vital Statistics. When your *Editor* congratulated Dr. Heizer for the splendid compliment to his efficiency, contained in this editorial, he replied: "The only credit I deserve is as the representative of the medical profession and the local registrars of Vital Statistics of Kentucky. They are the ones who have made our Bureau of Vital Statistics a success." As usual, Dr. Heizer struck the key note. In this connection, he asks us to say that quite a number of physicians in the State have failed to send in some of their birth and death certificates for 1912 and he asks us to urge them to hand them to the local registrars immediately. After you have read the following editorial, we feel sure you will want to help in the great work of this Bureau all you can.

"POLIOMYELITIS AND THE VITAL STATISTICS LAW IN KENTUCKY.

"Kentucky is one of the few states that has an efficient vital statistics law. Its enforcement is under the supervision of the state registrar, who is the head of the bureau of vital statistics. The September number of the *Bulletin* of the State Board of Health is prepared under the auspices of the bureau and contains an intensive epidemiologic and symptomatic study of an epidemic of poliomyelitis which occurred at Covington, embracing forty-eight cases. The report of this epidemic shows the value of a good vital statistics law efficiently administered. The federal census bureau has regarded as satisfactory the returns from Kentucky both in numbers and in completeness of the reports. The state bureau of vital statistics, however, has realized that the reports have been incomplete from some parts of the state, and recently an amendment to the law was enacted which makes it easy for physicians to comply with the law, and violations will no longer be tolerated. Vigorous prosecution will follow failure to report to the local and state registrars. It is the aim of the bureau to make their records of vital statistics 98 per cent. perfect. Through the reports made to the state registrar an investigation of the epidemic of poliomyelitis at Covington was started within thirty days, and all precautions taken to prevent its spread so that the epidemic ended with forty-eight cases. Similar reports of epidemics from other sections of the state of this and other contagious or infectious diseases enable the health authorities at once to set in motion machinery for their control. This was done also in the case of the epidemic of cerebrospinal meningitis which occurred in Louisville early in 1912. This prompt action based on accurate official information gives a sense of security to the people of the state in regard to the spread of epidemic diseases, and should be an example to all other states. The failure of almost one-half the states of the union to enact laws requiring the careful recording of births, deaths and reportable diseases is an almost unaccountable dereliction on the part of an intelligent people. It is said in the *Bulletin* of the Kentucky state board that if the bureau of vital statistics had done nothing else during the year except the work in connection with the two epidemics of poliomyelitis and cerebrospinal meningitis, the establishment of the bureau would be justified and the cost of its operation returned many times. Other states would no doubt find equal benefit from adequate vital statistics laws. The *Bulletin* also contains a well-written description of the etiology, pathology, symptomatology, diagnosis and treatment of epidemic poliomyelitis which is in accordance with the latest knowledge concerning the disease. The pamphlet is a valuable contribution to the literature of epidemic poliomyelitis and is a shining example of what an efficient vital statistics bureau can do for the people of a state."

INCREASING ACCURACY.

The profession of the State has so quickly grasped the possibilities of the propaganda for the eradication of hookworm disease that they have permitted no doubt of its success from the beginning. Only those physicians in counties where dispensaries have been conducted can fully realize all that this campaign means. In no other respect has it been of greater importance than in bringing to the attention of the medical profession, itself, the growing importance of more accurate methods of diagnosis. The medical correspondents of the State Board of Health have sent in reports during the year showing the treatment of 15,750 of hookworm disease, and it is wonderful to note that 15,075 of these were diagnosed microscopically. During the year, 17,471 cases of tuberculosis were treated by these same physicians and only 5,265 of these had been confirmed by the microscopists; and of the 19,125 cases of gonorrhea but 3,127 had been diagnosed microscopically and of 12,375 cases of diphtheria but 1,350 had sent in specimens to the laboratory. It is of special interest that more than one-third of the specimens of sputum examined for tuberculosis were sent from counties where the hookworm dispensaries had been conducted, and that nearly one-half of the specimens from suspected cases of gonorrhea have come from these same counties. If the Commission for the Eradication of Hookworm Disease had done no other thing than to bring to our attention as practitioners the importance of laboratory confirmation of our clinical diagnoses, it would have been worth while. As microscopical bacteriological examinations are made in the State Laboratory, free of expense to either physician or patient, it is confidently expected that every county in the State will show a far larger per cent of scientific examinations during the coming twelve months. There can no longer be any question but that quinine should not be administered for malaria without first securing a specimen of the blood for examination for the plasmodia. Every physician knows that most diagnoses of malaria are wrong and none of us should be contented with such a diagnosis without blood examination. In the same way, no patient should be discharged as cured from gonorrhea without at least three negative examinations of the urethral discharge after apparent cure. The time is rapidly coming when the physician who pronounces such a patient cured without this examination, will be considered *particeps criminis* to the infection of the innocent persons who afterwards contract this disease from uncured infections. In the same way, no child with diphtheria should be permitted to return to school until at least two successive examinations of throat swabs are negative.

It is well to remember always that the laboratory is but the handmaid of the clinician; but if a specimen is properly prepared and is then examined by competent bacteriologists, the careful practitioner will be delighted to find how frequently his findings are confirmed, and how much his clientele will appreciate his using the best scientific methods in their behalf.

REAL LOSSES.

During the past month, two great Kentuckians have been called to their reward. Dr. Wm. F. Beard, of Shelbyville, was born in 1835 and graduated from the Medical Department of the University of Louisville in 1858. He was a surgeon in the Confederate army during the war. Since, he had practiced in Shelbyville, doing a large practice up to the time of his death. He was one of the kindliest of men and the gentle twinkle in his eye has re-assured many a sufferer. He was a type of the chivalric Southern physician, of a great generation of general practitioners and all those who knew him will always feel that medicine was ennobled by his being a member of the profession.

Dr. M. P. Creel, of Central City, was born in 1851 and graduated from the Hospital College of Medicine in 1883. He was medical referee of Muhlenberg county for many years, was its health officer and at one time represented it in the Legislature. Several years ago, he was a candidate for Congress. In all the relationships of life, Dr. Creel was a splendid man, a true, loyal friend, a painstaking physician. Few, if any men of the State, have ever done a larger practice, and he never considered whether the patient was able to pay for his services but was always grateful that he had the strength and mind to render his service.

Kentucky can ill afford to lose such citizens.

Serodiagnosis of Staphylococcus Infection.—With the technic described, Homuth obtained a positive response in all but two of forty cases of various staphylococcus affections, mastitis, furunclosis, follicular tonsillitis, etc., while the response was constantly negative in all but four of seventy-four persons healthy or with other diseases not of staphylococcus origin.

OFFICIAL ANNOUNCEMENTS

ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH.

The year 1912 was an inspiring one for those engaged in health work in Kentucky, and in the country at large, and 1913 dawns still more auspiciously. Speaking before the Howard Medical School yesterday, Ex-President, Charles W. Eliot, the Nestor among educators in this country, said:

"Preventive medicine is capable in the future of doing away with poverty and misery, of remedying industrial disputes and of contributing to the cause of international peace. The medical practitioner of the future will be one who prevents rather than cures disease, and more than one-half of the physicians will be engaged in preventive rather than curative medicine. It is capable of removing those causes of human misery, poverty and sorrow which lead to internal rebellion and disorder and, among nations to war and strife. Our achievements in the Canal Zone have made safer future immigrations to tropical countries. South American cities are becoming safer. We are going to get, through preventive medicine, relief from the frictions which arise out of immigration among the leading nations of the world."

The report of the National Association for the Study and Prevention of Tuberculosis, made public on the 1st instant, shows that almost $19,000,000 were spent in the campaign against that disease alone in the United States last year, 65.6 per cent Federal, state, county or municipal funds, and the balance, about $6,000,000, private contributions. New York leads the list of states with an expenditure of $5,162,316, followed by Pennsylvania with $2,219,827; Massachusetts, with $1,407,319; sparsely settled Colorado with $1,105,520; Illinois with $930,370, and on down the list to Kentucky with a total for the State Tuberculosis Commission and the State Board of Health combined of $45,000, and a proportionately smaller sum from private contributions. In justice, the $30,000 appropriated for the use of the State Pure Food Commission should be added for Kentucky, making a total of $75,000, as clean, modern dairies and healthy cows, up-to-date slaughter houses and care of other sources of food supply and the after-handling of food products, and pure drugs, are all health work in the best sense and the Commission and this Board, as will doubtless be true of the Tuberculosis Commission, when its organization is completed, cooperate in everything permissible in order to get the best results without duplication of work or expense.

It will require long and painstaking study of the vital statistics returns to show the results of the large expenditures in the various states above referred to, but it is confidently believed by those most competent to judge that they will not be less than those of past activities along similar lines in our own and other countries. It is stated by a recent publication, "The Sanitary Evolution of London," that as late as 1860, only half a century ago, few residences in that city had connection with such sewers as existed, the offal and other foul wastes draining into the cellars, or into open cess-pools or on the ground in the back yards, that hundreds of thousands of the population lived in over-crowded houses and rooms which had no outside ventilation, with a resulting sick and death rate which seems incredible at the present day; and similar conditions prevailed in most centers of population, large and small, in all civilized countries. During the civil war, within the memory of many of us, and even during the Spanish-American war, less than fifteen years away, our military camps were veritable pest-holes, the filth of New Orleans, Havana and other cities was a standing invitation to yellow fever, cholera and other exotic pestillences, as well as the far more dangerous every day home plagues, as was true of Panama, even as late as five years ago, when Dr. Gorgas redeemed it and, at one stroke, made possible the canal and life in the tropics for the white race. This brief outline covers a period of history during which, with rare exceptions, only medical men interested themselves in public health matters, and were looked upon, even by intelligent people and legislative bodies, as cranks or worse for doing so. It is ground for encouragement for health officials who went through that trying time to live to see the platforms of all the great political parties vie with each other in promises of a National Department of Health, to read the prophesies of President-elect and others of his class, to find such material support as was indicated in the outset of this report, and to hear the pleas of the Rockefeller Sanitary Commission and other powerful lay-organizations for health officers in every county and city who do not practice medicine but can devote their entire time to the prevention of sickness.

And, actually, and still more by comparison, there are many reasons for encouragement in Kentucky. For 22 years the total appropriation for the protection of the health and lives of over two millions of people was only $2,500 a year, for the next ten years it was only $5,000, and counties and most cities did as little proportionately, or nothing. A few times the Board has had the persistent opposition of a hostile governor and often that of a few leading physicians, but it and its work have never had warmer support than from the present State Administration, from the last General Assembly and from the best organized and most loyal and united medical profession in the Union. This is in no sense personal to the present membership of the Board, but, because of the results obtained under great difficulties and practically without funds, accomplishing the seemingly impossible task of making brick without straw. During some years our efforts were very like those of Sisyphos with his rock, but for years, as to-day, Kentucky is recognized as in the front rank in health work, side by side with those having millions to command, and in advance of any and all in the enforcement of the laws against quackery and fraud upon the helpless sick.

In the absence of adequate funds, all of this was possible only because, after years of patient, persistent, tactful effort, the Board secured the systematic cooperation of various powerful activities of the National and State Governments, and of private organizations, all of them conducted without expense to it, or the State, except the incidental ones for postage and for travel to the necessary conferences. Omitting the past for lack of space, even some of you may be interested in a brief outline of some of the more important of these cooperations, beginning:

1. With the U. S. Public Health Service, through a detail of its medical officers, for the investigation, prevention and treatment of the dreaded trachoma, and other contagious eye diseases, widely prevalent in many counties of eastern Kentucky, and which threatens to break over control and spread to all parts of the State. These deplorable conditions were first brought to the attention of the Board through the unselfish efforts of Miss Linda Nevill and Dr. J. A. Stucky, of Lexington, who had visited some of the infected districts and brought many cases to the hospitals of that city for free treatment, and for instruction in the best methods of prevention. These investigations have already been conducted in the counties of Knott, Perry, Leslie, Owsley, Lee, Breathitt and Clark, taken as types, and involving the examination of 3,974 persons, mostly school children, ranging from 3% in Clark to 44% in some of the worst localities, with an average of 12% in every stage of the disease, from the early forms to almost total blindness. The alarming nature of these figures will be appreciated when it is known that about 75 per cent. of the cases are likely to result in blindness without proper treatment. The danger is recognized as so great, both as a health and economic problem, that, under your instructions, this Service has been asked to detail a corps of expert physicians and nurses, with field hospitals and traveling equipment, with a view of holding clinics from school to school and precinct to precinct for the free treatment of those already afflicted and, probably more important, for the education of the people as to the best methods of preventing the disease, and, of joining this with the campaigns against tuberculosis, typhoid fever and other similar diseases. The Hygienic Laboratory of this Service also furnishes us rabic serum for the free treatment of all persons exposed to hydrophobia. Acting for and with the State Prison Commission the Board has recently asked this Service for a detail of its Laboratory experts to do the scientific examinations necessary in the neo-salvarsan treatment of the inmates of the two penitentiaries and the State Reformatory afflicted with syphilis, and it is expected that will be undertaken at an early day.

2. With the U. S. Bureau of Animal Industry, through a detail of its veterinarians and the free use of its serum, working with the State Veterinarian and the State Live Stock Sanitary Board, in the use of tuberculin test for dairy cattle without expense to the owners, and other preventive work looking to a pure milk supply. The Board also joins the Live Stock Board in meeting the expenses of the State Veterinarian, instead of having two officials for duties which can be better and more economically performed by one.

3. With the U. S. Bureau of Vital Statistics in the copying and compilation of records of births and deaths for the Government files, and for our own reports and permanent files. When all worked out it is estimated that the saving to the State in this one cooperation will probably amount to $15,000 annually, much of it of a kind which the Board could not undertake at all with its present appropriation.

4. With the State Pure Food Commission in the preparation and enforcement of systemic regulations, and the inspections incident thereto, looking to better dairies, slaughter houses and other sources of food supply, and with this Commission and the State Board of Pharmacy in their efforts for pure drugs, and for preventing the sale of dangerous habit-producing drugs and nostrums.

5. With the Rockefeller Sanitary Commission in a broad investigation as to the prevalence and the prevention and treatment of hookworm and other intestinal parasites, and, incidentally, of other preventable diseases. Free traveling dispensaries have been conducted over the counties of Knox, Bell, Breathitt, Butler, Edmonson and Jefferson. Altogether 30,006 specimens have been examined, representing 118 counties, with an average infection of 33 1-3 per cent. or a total in the State of over 400,000 cases, if these per-

centages hold out, fortunately slight with a large majority of them, but no less important as carriers of the disease. This work will be greatly extended this year, and, as has been said, will probably be combined with the war on trachoma, tuberculosis and other similar diseases in a systematic way.

6. With the State Press Association in placing health and life-saving information, daily and weekly, before every newspaper-reading family in Kentucky, probably amounting to more each year, if the space was paid for, than our entire annual appropriation. To this generous cooperation is mainly due the freedom of this State from quackery, and we have cleaner advertising pages in the papers than any other state of the Union.

7. With the State and Local Federation of Women's Clubs in the education of the people as to the value of health and life, and in procuring legislation of incalculable value. To them is mainly due the credit for the remarkable work of Mrs. Crane, the passage of the pure food, vital statistics and drinking cup laws, and the audiences which make the work of our sanitary inspectors so much more successful than in other states.

8. With the State, District and County Teachers' Institutes, State and County Superintendents of Public Instruction, educational institutions and individual teachers, in the systematic instruction of children and young people, before wrong views and life habits are formed, as to the laws and importance of clean, healthy thinking and living. This instruction is so vital for the young and for those who toil that many have come to believe that in the State, as in the nation, health, education and labor should be confined in one distinct branch or department of the Government.

9. With the Fiscal Courts and City Councils in securing better health conditions and health officers, employed to devote their entire time to life-saving work in their respective jurisdictions, among the long neglected but most important functions of such bodies, as is now being recognized by the more intelligent of them and the people. The Fiscal Court of Jefferson County leads in this field in Kentucky, if not in the Union, and its progressive Judge and each magistrate are entitled to, and should have, the gratitude and cordial support of every man, woman and child in the county. This cooperation with counties and cities includes serum for the prevention and treatment of diphtheria, typhoid fever, blood poison and tetanus at nominal cost and paid for direct by the courts to the manufacturers.

10. With the State and County Medical Association, the STATE JOURNAL and medical profession, in systematic, voluntary team work in preventing sickness and prolonging life. In this work 795 members, most of them physicians, have served on city and county boards of health year after year, absolutely without compensation, and most of the county and city health officers at nominal salaries. The Association advanced the money to pay for the scientific apparatus of our laboratories before the appropriation became available, enabling the Board to save $3,625 in one transaction; it pays the salary of one microscopist in the Bacteriological Laboratory, and, at its recent meeting, by unanimous vote, made a liberal appropriation to employ attorneys for the prosecution of quacks, when, for any reason the regular official attorneys cannot act.

It required years of thought and effort of the members of this Board and the interests mentioned to start and maintain these cooperations, never so full and important as at the present time, and worth more, in the aggregate, to the real interests of the people than many times the annual appropriation.

In conclusion, as has been done annually for the thirty years I have been your Secretary, I submit a detailed financial statement for the year, with a numbered voucher for each item of expense, copies of which have been filed with the Auditor of Public Accounts as required by law, which will go to your own auditing committee under the rules.

MINUTES OF GENERAL SESSION, HELD IN LOUISVILLE, OCTOBER 28, 29, 30, 31, 1912

Minutes of the Fifty-Seventh Annual Meeting, held at Louisville, October 29, 30 and 31, 1912.

OCTOBER 29, 1912.—FIRST GENERAL MEETING.

The Association met in the First Christian Church at 9:20 A. M., and was called to order by the President, Dr. J. G. Carpenter, Stanford.

The following invocation was delivered by the Reverend E. L. Powell, Pastor of the First Christian Church:

INVOCATION.

Our Father in Heaven, thou who dost care for the souls of men and for their bodies no less; Thou who art the Father of our Lord Jesus Christ who went about the earth, while He was upon it, ministering to physical ills no less than to spiritual ills, we come into Thy presence to invoke Thy richest blessings and benediction to rest upon this body of men interested in the high and holy and sacred ministry of caring for the bodies of men and women. We thank Thee, our Father, for this profession. We thank Thee for the dignity which comes to it because of the character of work which it accomplishes. We thank Thee for the high sense of responsibility felt by these men. We thank Thee for the pride which is associated in their hearts with being co-workers with God Almighty in making this world better. We pray, Our Father, in their sessions there may come great results; that many things may be learned and many things may be communicated to the great public that shall help this community and this State in this great work of so strengthening and caring for the physical organism as that higher thinking may be done and higher work in the spiritual realm may be accomplished. We know that the intimacy between mind and body is so close that unless one is cared for properly there is no foundation for work to be done by the other. We pray Thee to bless these men and give them joy in their work and help them to go about their tasks as a prince claiming his crown. May this be a memorable gathering of the State Medical Association of Kentucky. Bless the exercises of the morning and throughout the week. Guide them, Our Father, by the holp spirit, and in these matters, as in all other matters when they are finished, accept and crown us as Thine in a better world. We ask this in the name of Christ, Amen.

THE PRESIDENT: We will now listen to an address of welcome by Dr. J. M. Mathews of Louisville.

ADDRESS OF WELCOME BY DR. MATHEWS.

Mr. President and members of the Kentucky State Medical Association, Ladies and Gentlemen: It affords me very great pleasure to welcome you to the City of Louisvile after being asked to do so. In doing this I represent not only the Jefferson County Medical Society, but the entire medical profession of Louisville; and not only these, but the business interests, the Chamber of Commerce, the Commercial Club, the Mayor and others wish me to welcome you to this city. Therefore, I say it is a pleasure for me, knowing these sentiments obtain with all classes of people, to extend to you a warm and hearty welcome which is due you.

Let me call to your mind, gentlemen, that this is the sixty-first meeting of your association, it being organized in 1851, holding its first meeting in the old Capitol Building, the senate chamber, at Frankfort, and the moving spirit in that organization was Professor Samuel D. Gross. (Applause). Remember then, how many men, distinguished men of our profession have followed in succession as president of this association. They may have gone across the river, but they have left us their example, and may we emulate that example so the future of this society may still retain that honorable and dignified position that it did in the past under that regime. (Applause).

This, gentlemen, is a convention city. We have here, welcomed by our Honorable Mayor, all characters of organizations, national and sometimes international. We have the cattlemen and the hogmen; we have the showmen, and last week we had the Hub men, whatever that may be. We have the Masons and the Oddfellows, the Knights of Pythias, the Redmen, and sometimes the blackmen, and just recently we have had the honor and the great pleasure of entertaining the Disciples of Christ, an International organization; then we have the whisky men and the beer men and the wine men, so you see we get things mixed once in a while. (Laughter).

In assembling here, my friends, I recognize the fact that we have special reasons for extending a welcome to you. I believe that every citizen of Louisville will recognize that fact. There are commercial interests represented by nearly every organization that meets here or elsewhere in their national conventions. There is no commercial interest represented here in this body. (Applause). We recognize that you have left your home; we recognize that you have left your practice; that you have left the sick men and the sick women and sick children to come to Louisville to attend this association for the purpose of being better able to attend to their wants when you return home. Therefore, it is for your people that you come, nor for any self-aggrandizement of your own. We recognize, and I speak for the City of Louisville, that in your hands not only is life and death entrusted, but that you at all times, either day time or night time, respond to calls whether it is a matter of remuneration or not. Let me say here, that of all bodies of men, of all peoples on the top of the earth, that which represents charity in its broadest sense is the medical profession. We recognize also that to you is entrusted the public health, not only of your community but of your State. Is it not strange that this body of men who are called Doctors, and that being their avocation, should go about daily and hourly in their community teaching the people how to keep well, and yet you are doing it every day. You are doing it and yet at the same time you know it is the means of lessening your income. We recognize that the Pure Food Act could not have been put into operation or be enforced without your counsel and therefore we are looking to you to see that its enforcement takes place. Right there, let me say to you, that whereas I know that each and every one of you have left politics at home, you and I are keeping a keen eye on that presidential candidate, whoever he may be, who promises the most in enforcing the Pure Food Act and putting a man into the cabinet to protect the public health of his country. (Applause).

I want you to notice, my friends, that this is a new commercial city. In wandering around the city notice the great improvement that is going on, and I know you will be proud of our metropolis. Notice the sky-scrapers, notice the new hotels and the general trend of business which is progressive and advancing most rapidly in the city of Louisville.

The medical situation here, you know, nearly from time immemorial, is such that it has been regarded as the seat of medical education. We have had here for many years medical colleges that had the reputation of being good medical colleges, but because of the advanced thought in the medical profession, it only required a hint to our colleges that it would be best for them and best for the people and for the students if they would cenralize and only become one medical school, and without opposition they were all merged into one. This city for many, many years has been accredited as having within its population some of the ablest surgeons and physicians in the United States; men that have made national and international reputations, but when I say this city, I do not mean it alone has produced these men, but equally as great men have been produced from the smaller towns in Kentucky, even the hamlets of Kentucky, and I need only mention such men as McDowell, and Brashear.

I want you to notice in your walk about the city the erection of our grand and new City Hospital in which we are all taking very great pride. I am told, and I believe you will recognize the fact, that there will not be a more complete and more modern hospital in the United States than this hospital in the City of Louisville will be when it is finished. Our city was generous in donating a million dollars for its erection, showing their interest in the medical profession and their confidence in the administration. Therefore, we are obliged to the citizens for doing this. I am told that no private case will be received in the City Hospital. That it as it should be. The hospital is erected for the poor, for those who cannot help themselves and that we must help. The city has appointed a Commission of our very best men, and on that Commission there was a doctor, and to him, without any disparagement of the others who composed the Committee, I will say we are deeply indebted and I refer to Dr. Ap Morgan Vance. (Applause).

Just a few weeks ago a gentleman, a very distinguished citizen of the United States, and some think the most distinguished citizen of the United States, in an address of welcome to the great national body of our profession took occasion to regret that our profession has divided itself up so much into specialties, giving as a reason that by so doing we would get rid to a great extent, at least of the old family doctor. How erroneous was that statement. There are just as many old family doctors revered and honored to-day as there ever were. There will always be just as many in the future as there have been in the past, and because, like scientific bodies, mechanical bodies, and all other kinds of bodies, the medical profession has seen fit to devote their attention to special subjects, there is no criticism on that account. If there was any disagreement between the specialist and the practitioner it has long since vanished. We have no fight amongst them. We have no differences to settle whatever. We have all been merged into a grand medical organization, and in the Kentucky State Medical Association here to-day we find men who are particularly intersted in internal medicine, men to which all specialists yield the palm as being the greatest specialty of them all. We are all engaged in a work for the common good, for the public health. There is unity among men in the medical profession, and this unity will continue as long as the profession lasts.

You are here, gentlemen, in a scientific way I know to devote your time to the studies and listening to the papers and entering into the discussions, but you are to have a little play, and therefore I would say to these young single men, flirt with our girls if you want to, but you old men hew to the line. (Laughter). We are going to try, as the chairman will say to you, to entertain you and at the same time we shall not forget the women.

The watchword to-day, gentlemen, with our profession, is to prevent disease. Think of it. I wish this sentiment could be heard by every layman in the land. I wish it could be heard by those who sometimes are disposed to criticise the medical profession. Think of it I say, that there are eighty thousand doctors represented by the American Medical Association urging the protection of the public health. That association has organized a bureau of speakers in every state and territory in the Union. Every city, every town, every hamlet, every county is to be gone into by one or more of these lecturers, not like a political organization seeking office or expecting pay or reward, but under the direction of this great Association every inch of ground is covered by speakers trying to teach the people how to keep well. (Applause). Stop a moment and think if you succeed. According to a report from England, numerous doctors have had to quit their calling because of the teaching of sanitation and hygiene. They have had to seek other means of making a livelihood, and yet with this fact staring us in the face, we are willing to go out and preach to the people and beg them to protect their own health, and in so doing your avocation my friends may be gone. But you will leave a legacy when you have passed away to the generations that follow, which is much more to be desired than great riches or fame, that is, an improvement in the public health. I thank you for your attention. (Applause).

RESPONSE TO THE ADDRESS OF WELCOME, BY J. W. ELLIS.

Mr. President and members of the Kentucky State Medical Association and Dr. Mathews: Representing temporarily the Kentucky State Medical Association, I thank you on their behalf for the cordial words with which you have invited them to your city, to our city, as well as the great center of medical learning in the South. You have not extended the hospitality of your city to an organization of men who are demanding shorter hours of labor and more pay, but to an army of men who are working day by day and year by year in the sick room, in the hospital, and in the laboratory trying to devise means by which humanity can be protected from the ravages of disease and strengthened against the assaults of death.

Dr. Mathews, if you would learn the history of medical science and be familiar with the records of those who practice that lofty science that heals the sick, makes the lame to walk, the blind to see, and sends its devotees with willing steps on missions of mercy along the thorny path or through precincts where daily pestilence stalks at noon-day, you must appeal to the medical profession. While Lieut. Hobson did a great thing in blocking Cervera's fleet, which brought him great renown, and caused women to try to kiss him, and landed him in the Congress of the United States, I would not have you gather from anything that I may say here or elsewhere which would in any measure detract from Lieut. Hobson and his associates, because undoubtedly their heroism added another chapter to the valor of the American army. But conceding that, what should be the measure of praise of those three brave scientists, members of our profession, Reed, Lazear, and Carroll, who boldly walked up in front of the enemy that had destroyed more human life than all the armies and navies of Spain ever did or could destroy to test a theory. The cause of yellow fever was not definitely known, but Findlay and other observers had suggested the mosquito theory, and in behalf of suffering humanity they went directly to Havana, the hot-bed of yellow fever, and pitched their tents within the walls. For days and weeks and months they slept on old sheets and pillows, under old ragged quilts in beds with the dying and the dead to determine to win a victory for humanity or die in the effort. Lazear died a martyr to humanity. Reed barely escaped with his life, and was soon landed into a premature grave, while Carroll escaped with his life to die a year later.

As a result of the researches of these heroic physicians the false idea that yellow fever was an air borne disease was exploded, and it was made known to the world of science that yellow fever is transmitted by the bite of a single species of mosquito, and by that agency alone. Their researches and their suffering established the responsibility of the stegomyia fasciata as being the cause of every case of yellow fever. The army, equipped with this new positive knowledge, with the aid of the physicians of Louisiana, made an assault upon this enemy in New Orleans, where they had already a hundred victims before it was generally known it was due to this agency. This was done in 1905, with the result that they succeeded in stamping out what threatened to be the worst epidemic of yellow fever ever known two months before its time limit had expired.

It would be impossible to estimate the amount of wealth that will be saved the Nation or the number of years of life added to the human race by the discovery of the exact cause and mode of transmission of yellow fever. The memorable and magnificent achievements of these physicians will be more lasting than the palacies of marble and granite because the passage of time will destroy the one, while the other is immortal. (Applause).

Dr. Mathews, it has been said that science and religion are the keepers of liberty. Can it not be added with equal truth that the science of medicine is the sole keeper of the public health, and as such contributes more to the Nation's physical development and material prosperity than any other of the learned professions. Whatever the argument for or against such a proposition, the fact remains that nobody, even with a superficial knowledge of the practice of medicine, will deny that medicine has not only kept pace with every other science, but has stripped them all.

Gentlemen of the Kentucky State Medical Association, many of you have missed a familiar face, a man with a manly presence, full of intelligence, and dignified simplicity. He occupied a place so long that we miss seeing him any more, but he has left records of imperishable worth and usefulness, as a writer, as teacher, as administrator, and as a health instructor he was unsurpassed. His name will occupy a prominent place in the annals of Kentucky medicine. I refer to no less a person than the late Dr. William Bailey. (Applause). He endeared himself to those who have had the privilege of enjoying his society, and who profited by his wise counsel, his frank cordiality, kind and courteous manner. Perhaps Dr. Bailey carried more of sunshine into the homes of the poor, and with less hope of reward in this life, than any other man who has ever practiced medicine in the State of Kentucky. But there has come to him that which will come to us all—death. May we not all hope that when our time comes we will be able to look back upon our lives as well done, be honored and as well preserved, as was Dr. Bailey able to do in his own case. (Applause).

J. G. Carpenter, Stanford, delivered his valedictory address as retiring president.

On motion of the Secretary, the President-Elect of the American Medical Association, Dr. John A. Witherspoon, of Nashville, Tennessee, was accorded the privileges of the floor.

The next thing in order being the installation of the President-Elect, Dr. Carpenter, in introducing his successor, said: There is no royal road to the presidency. I have here a souvenir from the carpenter's shop which I shall now pass down to Dr. Hancock and in so doing pronounce him the President of the Kentucky State Medical Association, for the year 1912-13.

Dr. Hancock then delivered his address as president.

Dr. Edward Speidel, of Louisville, Chairman of the Committee of Arrangements, made announcements on behalf of that committee. (For full report, see Minutes of the House of Delegates).

C. T. Wolfe, of Louisville, read a paper entitled, "Acute Suppurative Otitis Media, Its Recognition and Treatment by the General Practitioner."

Henry Enos Tuley, of Louisville, followed with a paper on "Infant Mortality, Its Causes and Its Prevention."

THE SECRETARY: In view of the importance of Dr. Tuley's paper, I move that it be revised so that it can be used as a bulletin by the State Board of Health and go before the teachers in Kentucky.

Motion seconded by several and carried.

J. H. Hohnstedt, Fort Thomas, read a paper on "Self-Medication."

O. J. Jenkins, Newport, read a paper on "The Practical Nurse."

Curran Pope, Louisville, delivered the oration in medicine. He selected for his subject "Idealism in Medicine."

On motion, the Association adjourned until 2 P. M.

First Day—Afternoon Session.

The Association reassembled at 2 P. M. and was called to order by the President.

The first order was a Symposium on Pellagra.

J. G. Owsley, of Lily, read a paper entitled "Pellagra."

Everett Morris, of Sulphur, read a paper on "The Blood Picture in Pellagra."

The paper of Dr. Morris was discussed by Dr. D. S. Wilson.

M. W. Steele, of Corbin, read a paper on "The Symptoms and Diagnosis of Pellagra."

W. E. Gardner, Lakeland, read a paper on "Pellagra as Related to Insanity."

O. P. Nuckols, Pineville, read a paper on "Pellagra as a Health Problem."

J. H. Hendren, Cary, read a paper on "Pellagra in Eastern Kentucky."

On motion of Dr. J. N. McCormack, a vote of thanks was extended to the gentlemen who had contributed papers in the symposium on Pellagra.

Donald K. Clark, of Louisville, read a paper entitled "The Serum Treatment of Cerebrospinal Meningitis."

Walter B. Gossett, of Louisville, followed with a paper on "Management of Placenta Previa."

George J. Herman, of Newport, read a paper on "Pathogenesis of Puerperal Eclampsia."

W. B. Moore, Cynthiana, read a paper entitled "Management of Puerperal Eclampsia."

On motion, a vote of thanks was extended to Mr. Furnas, who operated the stereopticon for the State Board of Health and for the work of the individual doctors.

On motion, the Association adjourned until 8 P. M.

First Day—Evening Session.

The Association met in the large Auditorium of the First Christian Church at 8 P. M and was called to order by Dr. Lewis S. McMurtry, who introduced John A. Witherspoon, President-elect of the American Medical Association, who delivered the annual oration.

J. N. McCormack moved that a vote of thanks be extended to Dr. Witherspoon for his eloquent address, and that the State Association pledges him and the great national body he represents the kind of cooperation which will make his administration an epoch in the history of the medical profession.

Motion seconded and carried unanimously.

On motion, the Association adjourned until 9 A. M.

October 30, 1912.—Second Day—Morning Session.

The Association met at 9 A. M. and was called to order by the President.

R. H. Moss, of Henderson, read a paper entitled "Diagnostic Errors in Diseases of Children."

J. Garland Sherrill, of Louisville, read a paper on "Some Observations on Fractures."

The paper of Dr. Sherrill was discussed by Drs. Wilmoth, Senour, Hendon, Skaggs, Moss, and the discussion closed by Dr. Sherrill.

J. M. Ray of Louisville, read a paper on "Indications for the Removal of the Tonsils with a Consideration of Total Extirpation."

J. A. Jenkins, of Louisville, followed with a paper on "Unexplained Pyrexias of Early Childhood."

G. C. Hall, of Louisville, read a paper on "The Common Diseases of the Eye in Children."

At the conclusion of the reading of this paper, Dr. Hall said: I have here two resolutions which, if adopted, will enable the teachers of our public schools to make superficial examinations of the children's eyes, to detect errors and diseases of the eye in their early incipiency, and also for the purpose of recommendinging legislation for the prevention of ophthalmia neonatorum.

I move the adoption of these resolutions.

The preambles and resolutions are as follows:

Whereas, it is believed that there is no doubt as to the substantial accuracy of the estimate, based upon the examinations made of hundreds of thousands of children in all parts of the world, that "from one-fourth to one-third of all school children are defective in vision to the extent or requiring the care of an oculist, if they are to do their work properly and permanent injury to their eyes is to be prevented," and

Whereas, it is believed that of the children of Kentucky a fourth or a third have need of careful attention to their eyes; therefore, be it

Resolved, that the Kentucky State Medical Association approves the plan already approved in writing by Dr. Cheatham, Dr. L. S. McMurtry, Dr. J. N. McCormack, and superintendent Hamlett, whereby the pupils of those Kentucky schools that are not already under medical inspection, shall follow the example of the teachers of Massachusetts and other states and make tests of their pupils' eyes, not for the purpose of trying to diagnose eye troubles, but for the purpose of finding if any exist and of reporting the existence of eye troubles to parents with the request that they seek the advice of oculists. Be it further

Resolved, that in making these tests the teachers make use of the Snellen test cards with the Allport directions for teachers.

Motion seconded and carried, and the resolutions were declared adopted.

The papers of Drs. Ray, Jenkins and Hall were discussed by Drs. Pryor, Carson, Purcell, and in closing by Dr. Ray.

A. H. Barkley, of Lexington, delivered the oration in surgery. He selected for his subject "The Present Status of Treatment of Fractures of the Shafts of the Long Bones," which was illustrated by numerous lantern slides, after which the Association, on motion, adjourned until 2 P. M.

Second Day—Afternoon Session.

The Association reassembled at 2 P. M. and was called to order by the President.

Martin H. Fischer, of Cincinnati, Ohio, read a paper entitled "Experimental Nephritis."

Wiliam L. Cash, of Princton, read a paper on "Perinephritis."

George W. Crile, of Cleveland, Ohio, read a paper on "Shockless Operations Under Anoci-Association."

The next thing in order was a symposium on Cooperative Public Health Work.

W. L. Heizer, State Registrar of Vital Statistics, began the symposium by reading a paper on "The Public Health Problem, Constructive Efforts Towards Its Solution."

The following telegram was read from Governor James B. McCreary:

Frankfort, Ky., Oct. 30, 1912.

President D. O. Hancock,
Care Secretary, A. T. McCormack, Kentucky State Medical Association,
Louisville, Ky.

I present my thanks for invitation to be present Wednesday afternoon at the meeting of the Kentucky State Medical Association, and regret that very important official engagements, which cannot be postponed, prevent me from accepting the invitation. My sympathies and best wishes are with the members of the Medical Association, and I take a deep interest in all questions to be considered by the Association. The State Board of Health was recommended by me and organized while I was serving my first term as Governor. The Tuberculosis Board was recommended and appointed by me when serving my present term as Governor. I shall do all in my power to advance the work of these important Boards and to promote the good work of the Medical Association and to benefit the health and sanitary conditions of the State.

James B. McCreary,
Governor.

Hon. Barksdale Hamlett, Superintendent

of Public Instruction of Kentucky, spoke on "What Will Be Attempted by the State Department of Education to Lower the Sick and Death Rate of Kentucky?"

Prof. R. W. McFarland, President of the Kentucky Educational Association, spoke on "Plans of Cooperative Health Work that Will Be Presented for Action by the Kentucky Educational Association."

Mr. Philo C. Dix, State Secretary of the Y. M. C. A.'s of Kentucky, spoke on "Possibilities of Concerted Public Health Work by the Young Men's Christian Association."

Mrs. Lafon Riker, Chairman of the Committee on Public Health of the Federation of Woman's Clubs, read a paper entitled "What the Federation of Woman's Clubs Will Do to Conserve the Health and Lives of the Women and Children of Kentucky."

Hon. Edward Shinnick, President of the Kentucky Press Association, read a paper on "Some Practical Public Health Work that will be Attempted by the Kentucky Press Association."

Rev. E. L. Powell, Pastor of the First Christian Church, spoke on "What is the Opportunity of the Ministers to Assist in Public Health Work and How to Secure Their Active Assistance."

Dr. W. W. Landrum, Pastor of the Broadway Baptist Church, spoke on the same subject.

Dr. Joseph Goldberger, Passed Assistant Surgeon, United States Public Health Service, read a paper entitled "How The United States Public Health Service Can Help in the Eradication of Preventable Diseases."

U. V. Williams, Frankfort, read a paper entitled "Duty of the State in Protecting Its Citizens from Unnecessary Diseases and Death."

William D. Haggard, Nashville, Tennessee, read a paper (by invitation) on "Some Practical Phases of Intestinal Obstruction."

Charles A. L. Reed, Cincinnati, Ohio, followed with a paper (by invitation) on "The Surgical Solution of Certain Medical Problems."

Edward Speidel, of Louisville, read a paper on "The Passing of Destructive Operations in Obstetrics."

The paper of Dr. Speidel was discussed by Drs. Daugherty, Shirley, Earle, and in closing by the author of the paper.

On motion, the Association adjourned until 9 A. M.

October 31, 1912—Third Day—Morning Session.

The Association met at 9 A. M. and was called to order by the President.

Woolfolk Barrow, of Lexington, read a paper entitled "Certain Surgical Conditions of the Right Upper Quadrant of the Abdomen."

Cyrus Graham, of Henderson, followed with a paper on "Gunshot Wounds of the Intestines."

These papers were discussed by Drs. McChord, Wathen, Solomon, Caldwell, and the discussion closed by the authors of the papers.

J. A. Stucky, of Lexington, presented the following preamble and resolutions in regard to trachoma, which, on motion of W. W. Anderson, seconded by A. T. Frazer, were adopted:

Whereas, according to computations made by the executive secretary of the Kentucky Society for the Prevention of Blindness from advanced reports of the United States Census for 1910 Kentucky, with 2213 blind, has a greater proportion of blind persons than has other states except three, and

Whereas, according to estimates made by eminent oculists, about one-half of all blindness is preventable; therefore, be it

Resolved, that the Kentucky State Medical Association in convention assembled make recommendations with regard to two preventable and curable eye diseases that cause such blindness: (1) With regard to ophthalmia neonatorum, which is reckoned by oculists as the cause of about one-fourth or even forty per cent. of all blindness in the world, and a few years ago was found by Dr. William Bailey to have been the cause of the blindness of 26.3 per cent. of all the pupils then in the Kentucky Institute for the Blind; and (2) with regard to trachoma, 75 per cent. of the untreated cases of which are estimated by Dr. Cheatham as resulting in blindness, trachoma, a disease found by Dr. Bailey a few years ago as responsible for the blindness of as many as forty-five per cent. of the pupils then in the Kentucky Institute for the Blind; be it further

Resolved, that the recommendations be as follows:

1. That to prevent ophthalmia neonatorum obstetricians should not rely upon boric acid solution, but should make it their custom to use a solution of one of the salts of silver, as a 1 per cent. solution of silver nitrate, or a 25 per cent. solution of argyrol.
2. That obstetricians should warn parents of the possibility of ophthalmia neonatorum by secondary infection.
3. That every Board of Health get ordinances passed to require that the physician, the midwife, or other one attendant upon a young baby under two weeks old, whose eyes have become inflamed, swollen and red, and show an unnatural discharge, shall report those symptoms to the Board of Health within six hours after finding these symptoms; and that the Board of Health upon receiving the re-

port shall be authorized to require that that baby's eyes have prompt and competent treatment.

WHEREAS, Dr. John S. McMullen of the United States Public Health Service, who, upon the request of the Kentucky State Board of Health, came to Kentucky to investigate the prevalence of trachoma in certain counties of Eastern Kentucky, has reported to the United States Government that of the 3,974 persons examined by him in those counties in 1912, about 500 were found to have trachoma, and

WHEREAS, Dr. McMullen writes, "To those who doubt the wisdom of classifying trachoma as a dangerous, communicable disease, it is suggested that they visit the disease as it exists in the mountains of Eastern Kentucky—the real trachoma—and see what a fearful handicap it imposes upon its victims," and

WHEREAS, it is reckoned by Dr. Cheatham that 75 per cent. of untreated cases of trachoma result in blindness; therefore, be it

RESOLVED, by the Kentucky State Medical Association, that a request be made of the Kentucky State Board of Health, that if it shall find it has not at its disposal sufficient means for beginning at once and maintaining an active campaign against trachoma, then the State Board of Health shall request the United States Government to send immediate aid into Kentucky, in order that the existing cases of trachoma may be treated and the development of new cases be prevented.

The following is an abstract of Dr. McMullen's report of his investigation in the mountains of Kentucky:

The investigation included Knott, Perry, Leslie, Breathitt, Lee, Owsley and Clark counties. A total of 3,974 people were examined, and 500 of them were found to be suffering from trachoma, or 12½ per cent. of those examined were suffering from this disease in all stages. The diagnosis of trachoma was made only in those cases thought to be positive; those only suspicious were not included. Of the total number examined 2,796 were school children from the mountain counties, and 338 or about 12 per cent. had undoubted trachoma. While in Clark county only 15 cases or about 3 per cent. of trachoma were found among the 436 school children examined. If conditions, as found in the child, are to be taken as an index as to what is in the home, certainly a 12 per cent. average of trachoma among the school children indicates an appalling amount of trachoma in the homes of these good and honest people in the mountains.

J. A. Stucky reports that in one mountain county he examined 100 cases in two days, 25 per cent. of whom had trachoma, or some infectious disease of the eyes. Also in another mountain county he examined 200 cases; 25 per cent. and more of them had trachoma. On the beginning of Court week I examined the eyes of 245 people in a routine manner, regardless of whether any diseased condition existed, and found that 45 of them, or about 18 per cent. had trachoma, and about 10 per cent. showed corneal complications. The majority of these were men, heads of families, attending Court from all sections of that county.

In Knott county 12 schools were examined; 659 school children were examined, and 119 were found to have trachoma, more than 18 per cent., or nearly one in five.

Outside of the schools, 400 people were examined, and 102 cases of trachoma found among them. Some of these, however, were presented for examination because they were known to have sore eyes, which accounts for this rather large percentage. A total of 1,059 people were examined in Knott county, and 221 or about 20 per cent. were suffering from trachoma.

It is estimated that here are about 800 cases of trachoma in Perry county. Sixty people were examined in their homes, and 26 were found to have trachoma. It is estimated that about 600 cases of trachoma existed in Leslie county.

In Breathitt county, of 614 persons examined, 77 were found with trachoma, or more than 12 per cent. It is estimated that there are 1,000 or 1,200 cases of trachoma in this county.

In Lee county 668 pupils were examined, and there were 57 positive cases of trachoma.

In Owsley county, Dr. Mahaffey visited 88 schools, examined 600 persons, and found about 3 per cent. with trachoma. I examined about 100 people by riding through the county and found about the same percentage of trachoma.

In Clark county, 436 school children were examined and only about 3 per cent. had trachoma.

B. J. O'Connor, of Louisville, read a paper on "Therapeutics of Children."

P. F. Barbour, of Louisville, read a paper on "Enteric Therapeutics of Childhood."

Discussed by Drs. Frazer, Coleman, Rodman, Owsley, Anderson, Morrison, and discussion closed by Dr. Barbour.

W. F. Boggess, of Louisville, read a paper on "Alcohol; Its Therapeutic Uses and Limitations."

Discussed by Drs. Anderson, Senour, Morrison, Simpson, and in closing by the author of the paper.

On motion, the Association adjourned until 2 P. M.

THIRD DAY—AFTERNOON SESSION.

The Association reassembled at 2 P. M., and was called to order by the President.

Arch Dixon, of Henderson, read a paper entitled "Typhoid Carriers."

T. A. Frazer, of Marion, read a paper entitled "The Care of the Newborn."

John H. Blackburn, Bowling Green, read a paper (by title) on "Vaccine Therapy."

At the conclusion of the reading of the papers, President Hancock said: No man has ever received more earnest support in presiding over a scientific body than I have had here at this session, and for this I thank you most cordially. I believe, from what I have heard, with your help, we have been able to get through the work with a fair degree of dispatch.

There being no further business to come before the meeting, on motion the Association then adjourned *sine die.*

ARTHUR T. MCCORMACK, Secretary.

MINUTES OF COUNTY SECRETARIES ASSOCIATION

The County Secretaries Association was called to order at 7:30 P. M., Monday, October 28, 1912, by Dr. Hugh D. Rodman, its President.

A. L. C. Perceful, of Louisville, read a paper entitled "The Influence of the County Society."

INFLUENCE OF THE COUNTY SOCIETY.

By A. C. L. PERCEFUL, Louisville.

There is so much that could be said upon this subject, and such a short time to say it in, that the writer will say as much as possible in the short time allotted him. It is not the purpose of this paper to enter upon the history of county societies or medical societies in general, save to say that ever since the organization of the first medical society, they have all had their influence, both upon the profession and the public, which influence has been both good and bad, but we feel that the influence for good has always predominated. In this statement we are sure that the older members of the profession will bear us out. With the united efforts and unselfish aims of the medical profession, it is certain that the good influence will in the near future, so far outweigh the bad that the latter will be hardly noticeable. Having once attained this state, let us not weary in well doing, but keep up the good work: ever bearing in mind that "a chain is no stronger than its weakest link," and that a fence is very poor protection with one panel down.

In the beginning (not by way of apology, however: for we believe that old maids can often give mothers pointers on raising children, and old bachelors can often give husbands pointers on the way to manage a wife) allow us to say that we fear that we will say nothing that you have not heard before, and that we will say things that should not have been said, and leave unsaid things that should be said; but we wish to bring to your notice a few facts that we have learned from observation and experience, and offer a few suggestions for your consideration and, if by so doing, interest in your society is created anew, then the writer will feel that this paper will not have been in vain, and will be fully repaid for any effort upon his part to put the influence of the county society upon a higher plane.

This subject could be discussed from several points of view, but for the sake of brevity, will touch upon only a few phases of it. .

1. The county society's influence upon the medical profession, both members and non-members.

2. The county society's influence upon the public in general.

3. The scope and extent of the county society's influence.

And, in conclusion, will offer a few suggestions that, if followed, might, and will in the writer's belief, greatly improve the influence of the county society.

The prime object of a medical society, of course, is to help its members gain knowledge, so that they may be better fitted to prevent and combat disease; this being the case, then naturally the members would be the first to be influenced by the society. Now this influence, as has been stated before, is bad as well as good. We will consider first the bad influence, and try to derive some benefit from it in the future, if anything good can come out of anything bad.

In all societies, or at least in all that the writer has any knowledge of, we are sorry to say there are some members who are not sincere; and, strange to say, these are often the older members and leaders in the society and profession. By insincerity, we mean that they are strictly ethical only in words upon the society floor. In this class may be included the man who secretly speaks ill of his fellow practitioner, or damns him with faint praise; the specialist who secretly divides fees with the general practitioner; the general practitioner who peddles out his cases to the highest bidder; the man who secretly, by any means whatsoever, steals your patient; up to, or, we should say, down to the man who will do a criminal abortion. The writer has seen some glaring examples of these and among the leaders of the profession, too. The higher up this man is in the profession, the more dangerous he is; for he will naturally have more influence upon the younger members because of his position. To such an one, we would say, beware; you are hurting yourself, ruining the influence of your society, and having a bad influence upon your fellow members. For, just so sure as the son is influenced by the father; the little boy by his older brother; so sure will the younger members of your society be influenced by you. Don't think for one minute that, because you are up in the profession, and are fairly respectable, you can do these things and get away with them. You may for a while, but as a rule the members of your society know you and what you are guilty of; so bear this phrase in mind: "Be sure your sin will find you out."

To the writer's mind these men are worse than the charlatan who sometimes gets into the society and openly violates all the principles of medical ethics. This man can be dealt with according to his deeds, because he does them openly, and of the two he is the more respectable, because he is out-and-out what he is. The latter's influence over the members will not be as bad as that of the former, because no one, as a rule, wants to or will imitate and follow a man who is openly unethical.

Then there is the immoral man, both the openly immoral and the secretly immoral man, who is often in the society. They, too, have a bad influence on the members of the society. There are members who stay away from meetings just because its membership contains men of the above mentioned classes.

Then there is the man who is the constant trouble-maker; the man that is always on the opposite side; the man who is by Nature opposed to everything; the man with a constant grouch; the man who is constantly making an ass of himself—in fact we sometimes believe that these men are born as "breech presentations," and have been going in that direction ever since, and cannot help their Nature, and are "more to be pitied than censured." Still they have their influence and it is not always good.

Mr. Member, take an inventory of yourself, and if you belong to any of the above classes, for the sake of yourself, for the sake of your society, for the sake of your profession, and, indirectly, for the sake of mankind in general mend your ways or get out.

Deplore them as much as we will, these are facts that no one here can deny. These are influences within the society and must be counted as a part of the society's influence. They are influences that must be eliminated, and each society must judge for itself whether it needs a purgative, a laxative or other milder, indirect eliminants. Let us clean up, clean out and stay clean.

Enough for the bad influence. We believe that while the county society, owing to a few members as stated above, exerts an influence that is not good, the influence which is good greatly outweighs that which is bad.

The county society is the greatest factor in uniting the medical profession both socially and professionally, and a united profession, if united on the proper basis and for the proper cause, can and will exert a better influence, both over the profession and the public, than a society divided against itself. Bringing the members closer together helps them to know each other better, and will dispel many false impressions and eradicate many petty jealousies. The closer the members become associated, the more nearly will the Golden Rule be carried out, which rule should be the basis of all ethics. The county society is the place to discuss all therapeutic and surgical measures; remedies both new and old; report and discuss cases. This being the case, the society influences its members to fight out their professional differences on the floor, face to face, instead of at the corner drug store, behind each other's backs. The county society is the place to discuss all matters pertaining to medical ethics. Let each new member know what is expected of him in a professional way, both scientifically and ethically, and let him see you living as you preach (and we believe that most members of the society do), and your influence can be only good.

We feel that what has been said in regard to the influence of the county society, both good and bad, upon the members, can also be said to pertain to non-members in the medical profession as well.

Now, briefly, as to the influence of the county society upon the public in general. This, too, can be divived into good and bad, but here also the good greatly outweighs the bad. The members that exert a bad influence upon the profession, cause the society to have a bad influence upon the public, for a man is often judged by the company he keeps, and naturally the society will suffer to a certain extent by having such members. Then, too, the public formerly believed that the profession was united against it instead of for it. The public, too, believes that no matter what a doctor does in his practice, that the society or profession will defend him. There is a public prejudice against the medical profession that is gradually and surely being overcome, and must be entirely eradicated before the society can exert a universal influence for good upon the general public. At the present time the county society, as a society, has very little influence upon the general public. Individual doctors, health officers, certain clubs, certain institutions, and some lay journals, are gaining a hold upon the public, but not through the county society.

How many health officers consult the county society about questions of public health? How many individual doctors who make public addresses, write articles, etc., do it in the name of the society? How often do you hear that the society advocates So-and-so, or that the society is making a crusade against this or that? This is not as it should be. Too often the health officer secures and holds his office by virtue of his political pull, and too often the doctor who delivers a public lecture is doing so for self-gain. How many people in your county know that you have a county society, and that this society is doing everything in its power to improve the public health conditions; to eradicate and prevent disease? Make the public acquainted with the fact that nearly all measures and means (too numerous to mention here) to cure and prevent disease emanate from the county society. Make them know that the sole aim and object of the society is to unite the profession in the great cause of upbuilding the human race.

The influence of the county society can no more remain local, than can a man live without exerting some influence upon some one else, be it good or bad. The local society will necessarily have an influence upon the neighboring society, and that society, in turn, on its neighbor, and they jointly upon the State society, and the State society upon neighboring states and they jointly upon the national organization and that body upon other societies of the world. So, you see, our little county society is an important factor in bettering the condition of the human race. Let us raise the standard so that its influence may be of the highest type.

In consulsion, allow us to offer a few suggestions that might broaden the influence of the society both upon the profession and the public. First of all the officers should be elected according to their fitness for each respective office, and not by reason of any society politics. Do away with the time-honored custom of giving the office to this one or that one because he is in line for it. The officers having been thus selected, they should use the same judgment and care in appointing the various committees. If possible, give each member something to do and see that he does it. We are sure that the members will take a greater interest in the society if each one is given something to do and made to feel that he is the one to do that particular thing. Of course, the scientific program must be looked after regularly; made to vary, and above all take up the live topics of the day. In addition to the scientific program, a social session should be arranged for occasionally; also invite your neighboring county society to a joint session at intervals.

Among your various committees, let there be one designated as your Judicial Council, Advisory Committee and should any member be guilty of violating the rules of ethics that your society stands for, let this committee go to him in the name of the society and not as individuals, and talk face to face, and we believe you will be able to eliminate a great deal of the bad influence that now exists. Make your meetings such that they will inspire each and every member to have high ideals and strive to attain them.

I would also offer the following suggestions that might broaden the society's influence upon the public.

First of all, the public prejudice that exists must be effaced. This can best be done by getting the public better acquainted with your society and what it is doing. Arrange special meetings to which the public is invited. Enlighten them along medical lines. It is surprising how little the majority of educated people know about things medical. There are many subjects that can be discussed at open meetings; namely, tuberculosis, epidemics, social questions, pure milk supply, pure food, public drinking cups and other sanitary measures, prevention of disease, hygiene, etc., etc. Have joint sessions, or co-operate with other public societies and organizations. Appoint various public committees, such as Public Health Committee, Publicity Committee, Legislative Committee, etc. Let the Public Health Committee look into and after all matters pertaining to the public health. Let the Publicity Committee take care of the matter of getting the society before the public, and making the public acquainted with what the society is doing. And right here let us suggest that you secure space in your county paper regularly, and let it be known as the County Medical Society Column, and in this column keep the public posted as to what the society is doing. We feel sure that each and every county paper will gladly support such a cause. There may be some objection raised to this, but the chances are that the biggest objection will be raised by the man who will secretly secure a "write-up" for himself in the same paper. Let this committee also secure speakers to represent the county society at public welfare meetings, etc.

Let your Legislative Committee look after matters pertaining to the various laws governing health measures, etc. Let them also confer with your health officers and legislators upon all laws in force and those likely to be enacted. Of course, you understand that these things must be done in the name of the society, and not as individuals.

The time is coming, gentlemen—yea, is now at hand—when the society must be up and doing and throw off this time-worn, threadbare cloak of false dignity and be men among men, and take some public interest in the public. Then, and not until then, will the county society get credit, which it so justly deserves, for the unselfish work that it is doing towards the upbuilding of mankind; then, and not until then, will the county society wield the good influence that it should both upon the profession and the public in general.

DISCUSSION.

W. W. ANDERSON was called upon to open the discussion. He said: I was busily engaged in taking notes during the reading of the paper, but had not intended to discuss it. However, since I have been called upon, I will say a word.

One thing that the speaker has put before us strikes me favorably, namely, the appointment of a committee on publicity. This can be illustrated by my own society. Along the line of public instruction we are planning to have a series of addresses to the people in popular form to instruct them with regard to tuberculosis, cancer, insanity, alcohol, hookworm, talks on the protection and preservation of the people's health, the health of the school children, the health of cities and other topics of interest. One of the things, if I may add a suggestion, that may result from addresses of that kind would be a correction of the public prejudice against the profession. The medical profession is not alone in this regard. Other professions suffer from the same prejudice. We know malpractice suits are continually increasing, and we know how the success on the part of the plaintiff depends upon the prejudice of the profession. The work of our Publicity Committee ought to go a long way towards disabusing the public mind and ridding it of the prejudice against the medical profession. I believe public instruction, rightfully carried out in the name of the county medical society will be a good investment as health protection.

ARTHUR T. McCORMACK: This is one of the most important questions that confronts us as it represents the units of the great medical organization. Dr. Witherspoon in his address to-morrow night is going to cover in a large measure what Dr. Perceful has said in his paper in regard to what an organized medical profession stands for. He is going to explain to the people of Louisville and to the people of Kentucky why we are attempting to do the things we do. The attention of the profession has been called to the fact that we are confronted with a grave danger. The time has come when we have to recognize in a large measure the possibilities of preventive medicine. As a profession the question arises, as it has arisen in the armies of the world, whether the medical profession is to continue merely to treat those that have fallen in battle, or whether its greatest purpose is to prepare the man who goes into battle in such a way that he will be in perfect physical condition for the fight. That is the question that is going to confront the medical profession of the future, and if we are to develop in the broadest way, as Dr. Perceful has so well said, the county medical societies must develop along the lines of preventive medicine by improving health conditions of the people. In saying that, it is important that we should not emphasize too much the role of preventive medicine. We must remember that 47 out of 100 people who died in Kentucky last year died of diseases we know to be preventable, and that the remaining 53 per cent. must be treated, and the treatment must not merely consist of diagnosis and prognosis, but must consist of time-honored remedies, the time honored course of treatment, together with the newer methods that have been worked out. As a profession, we do not want to lose sight of the fact that our first great object is to cure disease that already exists, and then in a bigger and broader way we want to take up this really more important work.

Dr. Perceful has called attention to one thing that is of special importance, and we cannot emphasize this too much to ourselves and to the public, and that is the matter of getting news printed in the newspapers that will tell the people how to keep well, and tell them the things about the medical profession that the popular mind ought to know. It does a lot of good for an eloquent man to stand before a lay audience and tell the people what the doctors are doing, but it will do far more good to have it printed in columns of a weekly paper, where they can sit by the fireside and ponder over these things and straighten them out in their minds and get a true idea of what the physician is and what he is doing, and that he is the representative of a great profession of which he is an integral part. This can be done. We have had the cooperation of the newspapers in Kentucky to a wonderful degree in this work. If we stop to consider for a moment, we find the entire appropriation made by the State of Kentucky for its State Board of Health in thirty years would not pay for the space in the last year given free by the newspapers of the state of Kentucky for this work.

Another thing: I wish very much every member of this organization could have been present this morning at the Seelbach Hotel and seen the remarkable assembly of women, fifty of the leading women of the State, as magnificent a body of women as I have ever seen, handsome women, mothers, intelligent women, who can make a good appearance in any assembly because of their intelligence and manner of speaking, and method of control in a parliamentary way, conducting their meeting with dignity, and see these women very earnestly, thoughtfully and carefully working out what? Not a program for a sewing society, not a program for a literary society, but discussing with as much thought and just as much seriousness as we are the problems of the public health! They had come from all over Kentucky as the representatives of the State Federation of Women's Clubs to attend the meeting of the Kentucky State Medical Association and to be present at the symposium on cooperative health work, to be held on Wednesday afternoon. They will be present in the church building where our sessions, very appropriately, will be held to know what we can tell them to assist them in the prevention of the diseases of women and children in the state of Kentucky.

Last winter in Frankfort there was an investigation of the State Board of Health. A very able young attorney, who conducted that investigation, asked Dr. Lillian South, when she was on the stand, if the women of the State had not written a lot of letters about health matters, and further what had the women to do with health matters? And that is, I think, the idea that many a man has. Dr. South aptly replied that it was the women who bore the children; that it was the women who bore the burden of disease; it was the women who had the sorrows and sadness of sickness, while the men go on with their work. If we will ask the women for support in this great movement, they will give it to us. If you call on the women for help, they will give it. They are influential members of the community, and are ready and willing to work if you give them an opportunity. These women here this morning are fully prepared to do any work we can suggest to them to help make the health and happiness of the people of Kentucky greater.

This paper is one of great practical importance. It is worth coming to this meeting to hear it if its spirit is carried into your hearts.

I would like to say one other thing before I take my seat, to the doctors visiting the city of Louisville. We ask you to look over the list of advertisers in the Jefferson county number of the JOURNAL. There is not a firm that the Kentucky State Medical Association does not vouch for. If you lose any money by trading with any one from that list from any advertisement, the Kentucky State Medical Association stands good for anything you lose. These advertisements have been selected very carefully. While you are in Louisville, if you need a hat or a pair of shoes, or if you need anything to take home to the children or to your wife or daughters, when you step into store, ask them whether they advertise in the Jefferson County number of the JOURNAL, and if they do, they will treat you better than any concern that does not advertise in the JOURNAL. If they advertise in the JOURNAL, they are a good firm, for it is only the good firms, the society stands for in advertising in the JOURNAL.

M. F. COOMES: I want to say just a word from personal experience. I am a believer in that kind of news paper advertising. Frequently people come into my office and say: "I have read so and so. It is a nostrum or a thing that is advertised; that Dr. So & So (giving the name) recommended it." Ordinarily the lay people have the greatest faith in the world in newspapers. I believe with Dr. Perceful that if the representatives of the county medical societies would judiciously publish a small portion of a column in the weekly papers, devoting for instance, 20 or 30 lines to whooping cough, the father and mother, brother and sister, would read it. I hope it will be carried out.

J. G. CARPENTER: I wish to indorse the paper. I have had considerable experience in the last two years in dealing with the American public. I find them eager to listen and anxious to learn, and wherever I have spoken there was a large audience. I was invited to come again, and if I had the time and wealth I could put in every day talking to the people and accepting their invitations. They are tired of doctor's bills. They are tired of trained nurses. They are tired of paying drug bills. The people have been sadly oppressed by disease and sickness. They want to know the better way, and if the doctors in the county medical societies act as one man, hew to the line, observe the Golden Rule with regard to the public and their professional brethren, the people would soon be educated, and we would all have a better time. It is true, as the author of the paper stated, the reason the profession has been handicapped so long has been on account of jealousy, competition, and the desire of one to make more money than the other. It is a horrible thing to think that a doctor will sell his patient for profit to a surgeon the same as he would sell his horse, or that a specialist or surgeon again would offer a commission. I believe that a man ought to depend upon his own merits, upon his own labor and skill for a living. He ought to be true to himself. If true to himself, he will be true towards his professional brethren and to his patients.

J. J. RODMAN, Owensboro, read a paper on the subject of "How to Finance the County Society."

HOW TO FINANCE A COUNTY MEDICAL SOCIETY.

By J. J. RODMAN, Owensboro.

Your Committee has asked me to prepare a paper on "How to Finance the County Society." The subject is important, yet it calls for an extensive treatment. I presume that the Committee is of the opinion that it is best for us to take care of the small matters, and that the larger ones will take care of themselves. However, I am down—or up—to tell you how to finance a county society, by which is meant, I have every right to presume, a county medical society. It reminds me of a time when the Kentucky State Press Association met at Owensboro. One of the after-dinner speakers was given as his subject, "IT." He naturally asked "What is IT?" Likewise I wish the Committee would give me some hint as to what I am to say on this measley subject. I am not a Tom Lawson, and I know nothing of "High Finance." If my debts were paid I would not have 30 cents, and yet I am called on to tell you rich doctors from the cities and from the Bluegrass all about finance and financing. Like the commander of the Light Brigade, I know somebody has blundered, and like him it is my destiny not to reason why, but to do or die. I shall do, not die.

As I understand it, finance has to do with money. Where is the doctor who has the "mon?" He works for the public good and relieves the sufferings of others and permits his own family to suffer, for want of bread and butter. He has no finances, yet this ideal medical society must be financed. How are we going about it? *Nihil ex nihilo.* Which is equivalent to saying that a medical society has no financial standing. But the life boat is pulling out and the ship is sinking and I must jump right into the subject under consideration.

To finance a medical society properly you must first get your money. There is where the rub comes, as the washboard said to the clothes, but you must get it, and of course it must be got out of the members. Tell them that the State JOURNAL is more than worth the money; that the defense fund is the best kind of insurance against malpractice suits; that insurance companies will turn them down as examiners; that the people will consider them back numbers—in fact that they will not be in it at all unless they pay their dues and enable you to finance the society, and make them believe it all—if you can.

Now to the main point; presuming the dues are paid, we have something tangible to work with. Pay State dues first. Then make county dues as low as possible—just sufficient to pay necessary expenses. Do not permit extra calls to be made on the treasury, such as flowers for deceased members' funerals, printing resolutions or anything else, except stamps and stationery for the secretary and for the printing of programs. Our society at its organization fixed its dues at one dollar but when the State Society raised its dues to $2.50, I reduced our local dues to 50 cents, for fear of losing members, making the total dues $3.00, as before—and we did not lose a member—and last but not least, if the society pays you a salary, the first thing you do after the dues are collected, pay yourself that salary.

F. A. Stine, Newport, read a paper on "The Value of Permanent Records."

THE VALUE OF PERMANENT RECORDS.

By F. A. STINE, Newport.

Medical organization is the life and back bone of our profession. It has done more to stimulate good work, research and good feeling among the profession than anything else. Until our present plan or organization was adopted, the profession did not, as a whole, derive any benefit from it. The medical organization to-day is built upon a strong and solid foundation: "The County Society."

To be able to be a member of your State and National Associations you must be a member of your county society. So if you are not a part of the foundation, you are not found in the great Temple of Medical Organization.

What is the county society to-day doing for the physicians of our country? We, who have been in the harness for years can look back and only marvel. The county society has awakened more dead material in the profession and encouraged and pushed to the front the young man, than all the States, Sectional and National Associations put together.

To-day you see men preparing papers, discussing them and reporting cases who formerly you could not persuade to get on their feet, and as time passes, their improvement in handling different subjects is marvelous. You are now hearing original ideas and etc., from the same men, who, but a short time ago were dead timber, but now the live wire of the society.

The county societies are to-day rearing the giants in medicine of to-morrow. In fact, our members are making medical history, and this all being true it will not be hard to impress upon you all the "Value of Permanent Records of County Societies."

We will consider the keeping of records in two parts: First, the Business; and second, the Scientific.

Let us first take up the business portion in making our records. All proceedings should be recorded in a record book large enough to last, at least several years, or typewritten on paper of uniform size, filed away in loose leaf ledger form, which makes a very good way of preserving the records, and would hold minutes for at least five to ten years.

Now let us consider briefly the minor things necessary to record complete records:

1. Who presided?
2. Roll call of Officers.
3. All motions should state by whom made and seconded.
4. Applications for membership, and what course they pursued. The application itself, should be filed away with other papers of the society as it contains a history of the member.
5. The report of Board of Censors.
6. Balloting for candidates and result.
7. All reports of Committees. Committee's reports should be made to the Secretary in writing and signed by the members of same.
8. All resolutions presented to the society. They should be in writing and signed by member making same.
9. All recommendations from the county society to State Association.
10. The Secretary's report to State Association.
11. The report of our delegates as to what was done at State meeting.
12. The work of the Committee on Publicity.
13. Money expended and for what purpose.
14. Amount of dues collected between meetings and by whom paid.
15. Should show amount of money in treasury.
16. Number of members present and whom.
17. Number of visitors and whom.

What is to be gained by permanent business records?

1st. You will be able to see if the officers have been faithful in the performance of their duties.

2nd. If the members appointed on Committees have performed their work well, and if not, see that they are not again appointed on Committees, because in many instances the reports of Committees influence the members in voting for or against important questions. The majority of the members do not investigate and rely upon the report of Committees, and if the Committee's work is not thoroughly done it very often retards the progress of the society.

3rd. You have a record of how and when a physician joins the society.

4th. You have a record of what your Board of Censors have done.

5th. What your Committee on Publicity has accomplished.

6th. If your Delegates have faithfully carried out the society's instructions and work accomplished by them at the State meeting.

7th. The report from your Delegates of work at State meeting stimulates the members to have an interest in the State Association.

8th. A record as to who are the regular attending members who made the society worth while.

9th. You have a check on your finances.

I could go on enumerating many other things why the business records should be permanent, but think these are sufficient.

II.—THE SCIENTIFIC RECORDS.

This is by far the most important and most neglected. The members of our societies are making medical history and it is due them that the secretary keep as complete a record as possible.

1st. *Case Reports.* To my mind this is the most important and interesting part of our scientific work. It gives us the experience of others, how they combatted and overcame conditions that seemingly were insurmountable. It tells us of their successes and failures. Pathological conditions found. The peculiar findings in certain cases that were not thought of. The result of microscopic examination. The result of blood examinations and all those things that go to make a complete diagnosis and treatment, be it medical or surgical. We get the benefit of the member's labor and experience and we are better able to handle such cases when they are presented to us for treatment, where, without this report we would probably be in the dark as to what conditions we had to deal with, and how to handle them to get the best results for our patient. All case reports should be presented in writing, so they can be recorded in full.

2nd. The title of the paper and by whom presented. This paper when read should become the property of the society and filed away for future references.

3rd. Those taking part in the discussions. Let me make a suggestion to the societies right here. To get the best results out of any paper presented it must be thoroughly and intelligently discussed, and this can only be accomplished by appointing two or three members to particularly prepare themselves, and as far as possible it should be in writing so it can be filed away with the paper.

Jefferson county is the only society in the State that has made any arrangement whereby her scientific work is a matter of permanent record, and that is by the publishing of the Jefferson County edition of our State JOURNAL. And I desire at this time to congratulate the Jefferson County Medical Society for the enterprise and good work she is accomplishing by publishing her scientific work. She is not only getting her work before her individual members, but the whole profession of the State. While it is impossible for other societies to do likewise on account of the expense attached to same, yet we can accomplish the same results as Jefferson is doing without any cost at all.

When we have a paper presented that we think is worthy of publication, we should forward it to our excellent Editor of the KENTUCKY MEDICAL JOURNAL and have it and the discussions published. I feel sure our Editor will sanction such a move and be more than pleased to get them and should they come too fast he will gladly enlarge the JOURNAL. In this way we will secure premanent records of our scientific work.

What do we as a society accomplish by keeping full and complete records of our scientific work?

1. A system should be inaugurated that would be taken up by those following us.

2. Our activities would be recorded.

3. The results of our labor would be a matter of record.

4. That in after years when we have been forced aside by old age or death, those that follow can see what was accomplished by us and it will be a stimulant to them to push forward. They will see who it was that by hard work helped his fellow practitioner with the result of his labor, and will undoubtedly be a help to them.

If the members know that all case reports, papers and discussions are to be made permanent records of the society by being published, they will give more time and study in preparing them in the most scientific and up-to-date manner, and by so doing make them better physicians, and our societies more prominent and felt in the community and state.

It will preserve the work of the individual physician, who probably was the pioneer in some research work, technique, pathological or bacterial findings, and later some one may come forward claiming priority, when we can show by our records that Dr. B., of our society had a year or two before presented the same thing as the result of his labors.

While much depends upon the secretary to make his society records permanent, yet let me say: "That there is much for the member to do to make it possible for the records to be made permanent and valuable." If you would have the proceedings of your society made permanent and valuable not only for yourself, but the coming generation, you must do your part. As I said before all case reports and discussions should be given to the secretary in writing so they will be recorded properly.

Let us go to our homes determined to do better work as secretaries, to stimulate our members to better work, so that our works and deeds can be recorded and left to the coming generation and thereby stimulate them to push forward and reach the goal we started for, but probably never reached.

DISCUSSION.

CURRAN POPE: Mr. President and Gentlemen: The strongest permanent record that any county society can possibly put forward, a record that will last from generation to generation, is its own organization, and from time immemorial, so far as the ken of man reaches back, organization has ever been that means by which the records were made permanent and by which deeds were accomplished.

When the hordes of the Medes and Persians met the invading hosts of Phillip of Macedonia, was it the disorganized army of the Greeks or the disorganized army of the Medes and Persians that was whipped? It was not. It was the notable ten thousand, the solid Macedonian phalanx, that acted as one man that gave to Phillip of Macedon and Alexander, his son, the marvelous victories which made him sigh again for more worlds to conquer. When you begin to make the medical profession capable of writing a record such as the celebrated Macedonian phalanx wrote upon the tablets of the history of the world, then you are going to find that the medical profession will command the respect and honor and kindly feeling of every person in the community in which the physician resides, and if we do not organize, if we do not make our organizations that permanent unit, that indestructable record, we can never hope to conquer this world and sigh for others to conquer. (Applause.)

UNIFORM PROGRAM FOR COUNTY SECIETIES.

D. O. HANCOCK: What I shall say will be taken from a paragraph of my address. (For full particulars, see the President's Address, KENTUCKY MEDICAL JOURNAL, Vol. X, No. 21, p. 838.)

UNIFORM PROGRAM FOR COUNTY MEDICAL SOCIETIES.

By D. O. HANCOCK, Henderson.

In Unity There is Strength. A truth so old that, the mind of man runneth hardly to the contrary. Unity of purpose comes to fruition best when supported by unity of method and unity of effort. Unity satisfies desire, simplifies needs, forsees wishes, and becomes a constant fortune. "The multitude which does not reduce itself to unity is confusion; the unity which does not depend upon the multitude is tyranny."

The needs and benefits of an Uniform Program for our County Medical Societies are many. The difficulties in the way of such an arrangement are also many. If we shall be able to devise some way to secure the benefits and at the same time get-by the obstacles, we shall have served a good turn.

The success of a county medical society depends more upon the careful, previous preparation of its program, than upon any other one thing. Social sessions are pleasant and indeed very profitable. Notices sent out in due time, personal appeals, etc., all serve well in their way; but, sensible men will not continue to give of their time unless there is something real and worth while. This can be secured only by forethought, and planning and work.

The gradations in the scale of preparation may be, a few doctors meet, smoke and chew tobacco, report cases, swap yarns, and adjourn.

I have known a County Medical Society to use its alphabetical roll as its order of essayists.

Again I have known the program to be made at one meeting for the next meeting and so on from meeting to meeting. Sometimes the entire matter is left to the secretary. Occasionally a committee prepares the program and announce it from meeting to meeting.

Any plan if it is worked successfully is better than no plan. The plan provided by our constitution by which the President, Vice President and Secretary are a program committee is the best. Sometimes a special committee is desirable. A program for the entire year should be prepared.

Let this annual program embrace eight or ten general divisions of Medicine, Surgery, Obstetrics, Pediatrics etc., etc. Divide the membership accordingly, as they may indicate their preference for a certain division, and have the individual doctor give topics, two or three, on which he will prepare papers at such times as the committee may indicate. Print this program on folders to fit envelope and use as one-cent letter for notice of meetings also notice of time and place of each doctor on the program.

Such a program has two distinct features: 1st. A number of general topics which are fixed divisions of medical study and practice. These can be arranged for general use and are equally applicable to each and every county in the State. Uniform program this far is easily practicable.

2nd. The selection of special topics under these general heads by the individual doctors, members of the county society, and the arranging of these topics and members into a complete program for the year, by the county committee.

A third factor is the time and frequency of meetings. If the State Association will adopt a program for semi-monthly meetings and for ten months in each year, applicable to the first part of our undertaking,—that is the fixed divisions of study and practice; each county society in developing the second part,—that is the special topics and men, can easily arrange for less than two meetings or more as may be needed.

The program for the scientific session this year is based on a scheme of work which has seven sections. (See scheme). Other states have adopted this plan. It is as applicable to county societies as to state meetings. Arkansas State Medical Association has adopted the following general divisions for its program in 1913, and has elected a Chairman and Secretary for each section.

Practice of Medicine.
Surgery.
Obstetrics and Gynecology.
Pathology.
State Medicine and Public Hygiene.
Dermatology and Syphilology.
Diseases of Children.

Using the general divisions of the Arkansas State Medical Association as a basis we have developed Part I of a Provisional Uniform Program for County Medical Societies. We respectfully submit it to the House of Delegates.

1913.

PRACTICE OF MEDICINE.

First Meeting, January ...., 1913.

Diseases of the Chest.

1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

Second Meeting, January ...., 1913.

Diseases of Metabolism.

1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

OBSTETRICS AND GYNECOLOGY.

Third Meeting, February ...., 1913.

Obstetrics.

1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

Fourth Meeting, February ...., 1913.

Gynecology.

1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....

3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

DERMATOLOGY AND SYPHILOLOGY.

Fifth Meeting, March ...., 1913.
Dermatology.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Sixth Meeting, March ...., 1913.
Syphilology.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

STATE MEDICINE AND PUBLIC HYGIENE.

Seventh Meeting, April ...., 1913.
State Medicine.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Eighth Meeting, April ...., 1913.
Public Hygiene.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

SURGERY.

Ninth Meeting, May ...., 1913.
General Surgery.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Tenth Meeting, May ...., 1913.
Special Surgery.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

DISEASES OF CHILDREN.

Eleventh Meeting, June ...., 1913.
Eruptive Diseases.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
Intestinal Diseases.
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Twelfth Meeting, June ...., 1913.
Paresitic Diseases.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
Influences of Child Life.
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

PRACTICE OF MEDICINE.

Thirteenth Meeting, September ...., 1913.
Fevers.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Fourteenth Meeting, September ...., 1913.
Diseases of the Heart.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
Diseases of the Kidney.
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Fifteenth Meeting, October ...., 1913.
Practice of Special Medicine.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

PATHOLOGY.

Sixteenth Meeting, October ...., 1913.
Pathology of Cancer.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
Pathology of Tuberculosis.
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

SURGERY.

Seventeenth Meeting, November ...., 1913.
Surgery of the Spine.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
Surgery of the Extremities.
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....
Eighteenth Meeting, November ...., 1913.
Genito-Urinary Surgery.
1st paper, subject, ... Dr. ....
2nd paper, subject......... Dr. ....
3rd paper, subject,......... Dr. ....
4th paper, subject,......... Dr. ....

BUSINESS MEETING.

Nineteenth Meeting, December ...., 1913.
Order of Business.

1. Reading of Minutes.
2. Bills.
3. Reports of Officers.
4. New Business.
5. Miscellaneous.
6. Discussion of Program for 1913.
7. Election of Officers.
8. Adjournment.

Twentieth Meeting, December ...., 1913.
Social Session.
Annual Banquet. Special Program. Toast and Roast.

If the House of Delegates shall adopt this draft of Part I of Uniform Program for County Societies, I would respectfully suggest that the further development of this the program be entrusted to the Committee on Scientific Work. That said committee have printed as many as it may need for distribution. And that it send copies to the program committees of each county society and assist the county committees to develop Part II. I should also favor keeping the original form of Part I. When Part II has been completed the State

Society could at a very reasonable cost print a few hundred for each county society. Bearing in mind all the while that each county society shall use its own members and each member shall choose his own topic along the line of the general plan.

ARGUMENT.

Practical Uniformity of Program for County Medical Societies will be secured by Part I The General Divisions may be changed from year to year with the approval of the House of Delegates.

Adjustibility and individuality are provided in Part II, by having the county committee arrange its essayists and the essayists choose their topics.

Time and frequency of meeting will be improved by adopting semi-monthly meetings and for ten months in the year, as a basis, and varying from this as occasion may demand.

Better organization is the demand of all medical associations. It is more intense in 1912 than ever before. The county society is the unit organization. To improve the unit is to improve the whole.

Respectfully submitted.

W. T. ATKINSON: I would like to move that we adopt this program which Dr. Hancock suggested for the coming year.

Motion seconded.

W. W. ANDERSON: I would like to move to amend that motion by just changing one single letter so that the motion would read that "we adapt" this program. If you will excuse the remark while I have the floor on a motion to amend, I would like to remind you, gentlemen, that where you have a society capable of doing good work, it cannot safely and wisely adopt anyone's program any more than a man can safely adopt another man's clothes. They do not fit. We can adapt this. That is what we need to do. This uniform program is full of excellent suggestions of great value to us. I am on the Committee that is now arranging a program for the Campbell-Kenton Society next year, which we will soon have published, ready to put into the hands of the members before the first of the year, and I can see how we can get much value out of this, but I cannot see how we can make this fit all our immediate needs. We can only *adapt* it. It is valuable and suggestive material, but we cannot swallow it as a whole. It does not meet the needs of the average man.

W. T. ATKINSON: I have no objection to changing the term in this motion, and I accept the amendment. I would like to add, that this program will suit most county societies but it can be adapted.

D. O. HANCOCK: In explanation, I will say if you will approve this part, one, of the program, and then commit the matter to the secretary and the incoming President, and we have a sufficient number of these to send out, the adaption must be with the county societies to fill in No. 2, or have them print it themselves, or we will print it for them, but if it is adopted in Henderson county, and Campbell-Kenton county, it will meet with the approval in many other places and will strengthen the organization especially in places where it is needed. Where it is not needed, we have no desire to thrust it upon them.

W. T. ATKINSON: Dr. Hancock said he wanted the authority of the State Society to have this printed for the county society. I did not include that in my motion because this body has nothing to do with it.

The motion as amended was put and carried.

ELECTION OF OFFICERS.

The following were nominated and duly elected officers of the County Secretaries' Association for the ensuing year: President, F. A. Stine, of Newport; First Vice-President, A. C. L. Perceful, of Louisville; Second Vice-President, J. Tom Price, of Harrodsburg; Secretary, Lillian H. South, of Bowling Green.

Adjourned.

Respectfully submitted,
LILLIAN H. SOUTH, Secretary.

Tuberculin Treatment in Children.—Klotz concludes from his extensive experience that the best method for administration of tuberculin, especially in children, is through the skin, as by the technic for the Pirquet test. The skin is inoculated at three, four or five different places, and the inoculations are repeated at intervals. The results were particularly favorable in gland and bone tuberculosis. In pulmonary tuberculosis it delays the process in even extreme cases, and is a valuable aid to other therapeutic measures. It never does any harm, he affirms, and when this form of administration is used before subcutaneous injection, it prevents the ill effects of the latter. He accounts for its effectual action on the ground that it stimulates the skin to the formation of receptors which neutralize the toxin produced by the bacilli

Roentgenoscopy of Adhesions Binding Down the Colon.—Pers calls attention to the instructive evidence afforded by attempts to push the colon around as the patient is being examined in front of the screen. The normal colon can be readily pushed around, but when bound down by adhesions this cannot be done, as is readily seen in the shadow on the screen.

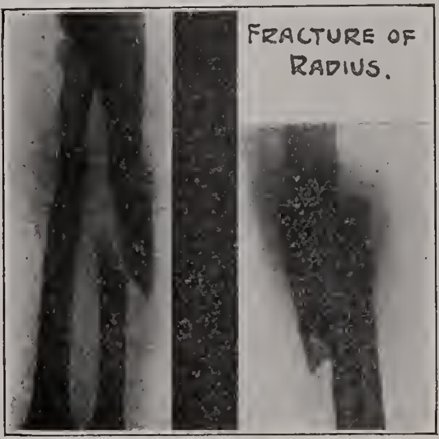
ORIGINAL ARTICLES

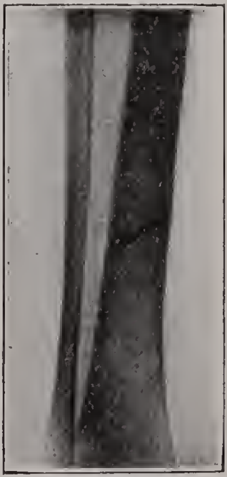
ORATION IN SURGERY

THE PRESENT STATUS OF THE OPERATIVE TREATMENT OF FRACTURES OF LONG BONES.*

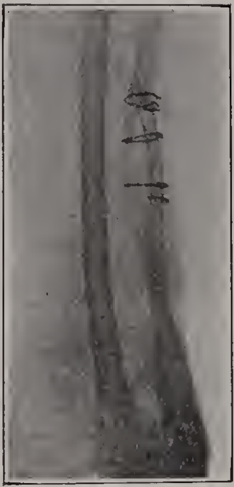
By A. H. Barkley, Lexington.

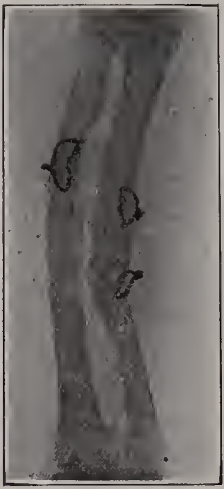
In thinking over the various subjects that might engage your attention, it occurred to the writer that a short resume of the present status of the operative treatment of fractures of the shafts of long bones might interest you. This subject has, until very recently, been neglected, and no apology need be made for directing your attention to it, as it is one of the most important with which the surgeon as well as the general practitioner has to deal.





The limitations of this paper you will note as time and space will not permit one to consider fractures in general, and only this particular phase of the subject will be discussed here.





In addressing you on this topic, I cannot refrain from saying a word with reference to the negligence of teachers of surgery regarding fractures, and the apparent indifference that some surgeons exhibit concerning these cases. Many of you will remember when the subject of fractures was reached the lecturer on surgery would spend much time, and drill students thoroughly until they had acquired a pretty fair knowledge of fractures. We were taught to form fairly accurate ideas of a given case from the clinical appearance and symptoms. Things have changed somewhat. The present day graduate is equipped with the salient points of fractures in general, and more stress is laid on the various *methods* of treatment. He further knows that the X-ray will as a rule reveal to him at a glance the nature of the fracture, and it is on this method of making a diagnosis that he relies principally.

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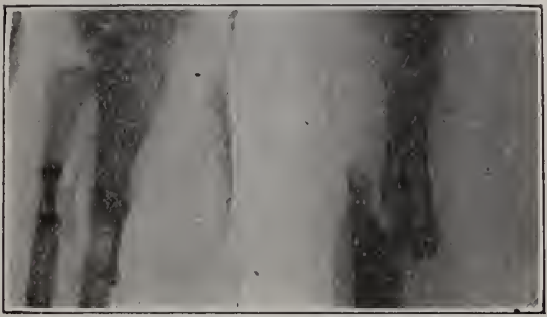
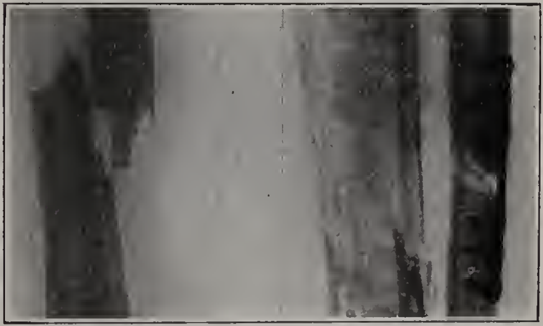
*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

The visiting surgeons to some of our larger hospitals used to turn over all cases of fracture to their house staff. This was a vicious practice as it was then carried out, for it was not without bad effect on both the house staff and the patient. The house surgeon soon began to feel that the majority of cases of fracture were of little interest, and it was not until the case had taken on the aspect of a miserable failure and the possibility of a legal complication was apparent, would the visiting surgeon condescend to look at the case.

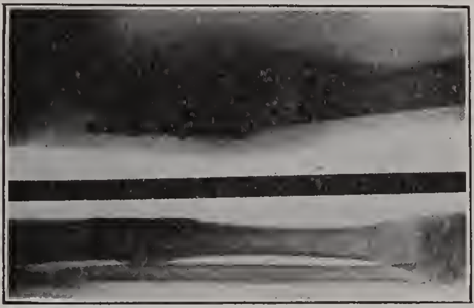
This condition does not exist nearly so much now as formerly, as the courts have impressed upon the profession the necessity of carefully examining every case, and exhausting every means to give patients as good limbs as possible.

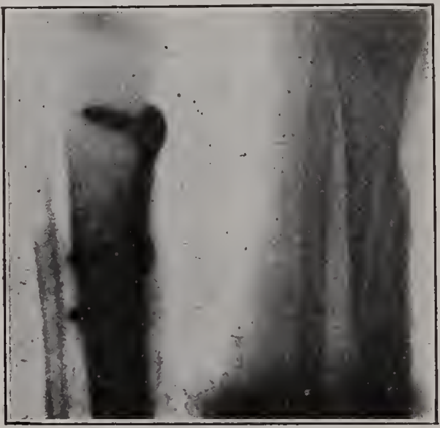
The class of fractures under discussion may be divided as usual into simple, compound, comminuted, and compound-comminuted, and these may be further divided into spiral epiphyseal, transverse, etc. The treatment of the different kinds of fractures call for different methods, no one being applicable to all cases. The question of employing this or that method in a given case is a matter to be carefully considered, depending on the experience and dexterity of the surgeon, character of fracture, simplicity of application, and the ease and correctness with which the fragments are held in apposition. This latter may or may not be easily accomplished, depending on the contingencies that may arise in any case and tax to the uttermost the skill of the most expert. Since the advent of the Rontgen rays, our knowledge of the morphology of fractures has become more exact, and special types of fractures are now recognized which hitherto eluded detection. The skiagram, while a valuable aid, should not supplant a careful clinical examination. With the skiagram, our success or failure to reduce a fracture can be detected, thus imposing upon the physician in charge an additional duty which he owes the patient—that is, to skiagraph every case of fracture before and after reduction. A word about skiagrams: one is not justified in reaching conclusions regarding a fracture without having skiagraphs taken in two directions, as an anterio-posterior view may show the ends of the bones in perfect



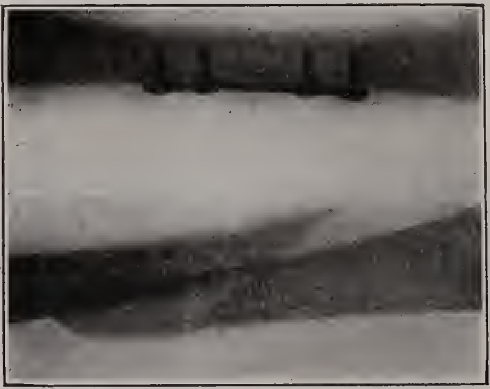


alignment, while a lateral view may show a separation of an inch or more. X-ray pictures in the hands of the patient have often resulted in legal action against doctors, and the fact should not be lost sight of that an excellent skiagram may exaggerate a small deformity, depending on the angle the tube occupies with reference to the fracture.

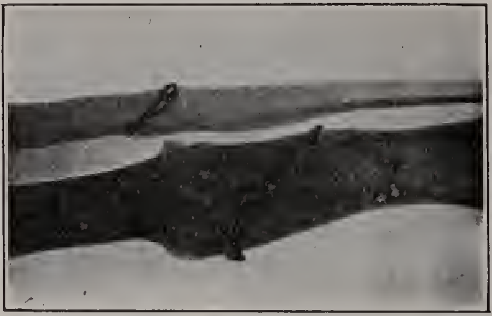




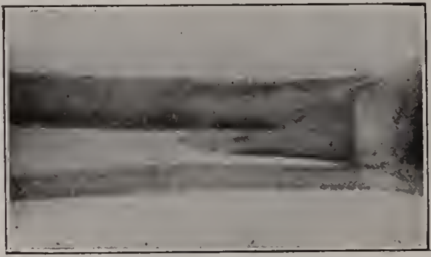
That many methods have been devised and few have stood the test and that not one is ideal, is attested by the fact that the writer was able to collect 72 different methods of treating fracture of the shaft of the femur, and to each method some serious and valid objection could be raised.

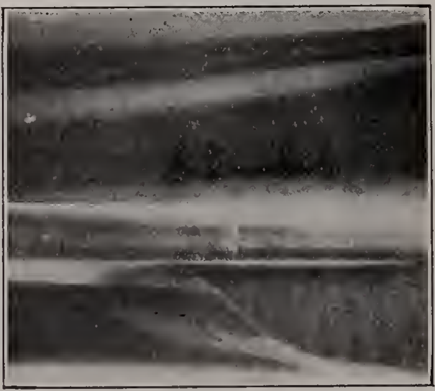


The treatment of fractures has undergone very marked changes for the better within the past sixteen or seventeen years; and while our results are as yet not ideal, in many cases sufficient advancement has been made to justify one in saying that other methods are yet in store which will insure still more perfect results than we are now obtaining with our present forms of treatment, and that the time is yet some distance off when we will come to the parting of the ways when we may choose one method or the other for all cases.



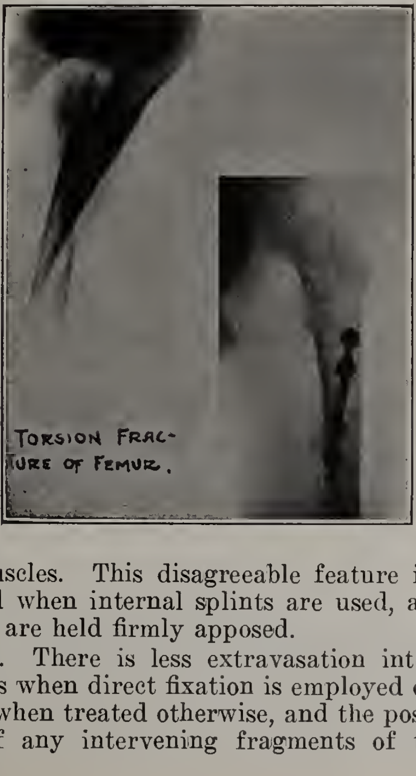
At present there are two generally recognized methods of treating fractures of the long bones; i.e., the non-operative, and the operative or open method. I desire to direct your attention to the operative method, which is at present provoking much discussion, its advantages, disadvantages, types of cases for such treatment, and the method of its application. The advantages of the open method are at once apparent:





1st. The operator can place the bones in exact apposition, as the whole field is directly under the eye; all over-riding or angulation is at once overcome; in some types of fracture of the shafts of long bones—for instance, in spiral and oblique—it is obvious that no amount of traction will reduce the fragments, and no known dressing will hold them with any degree of certainty in apposition as will the method of direct fixation.

2nd. The patient is relieved of the annoying pain due to the movement of the fragments. This is especially noticeable in many cases treated non-operative, and is sometimes due not so much to any movement of the patient's body as to the involuntary contractions of muscles. This disagreeable feature is obviated when internal splints are used, as the bones are held firmly apposed.



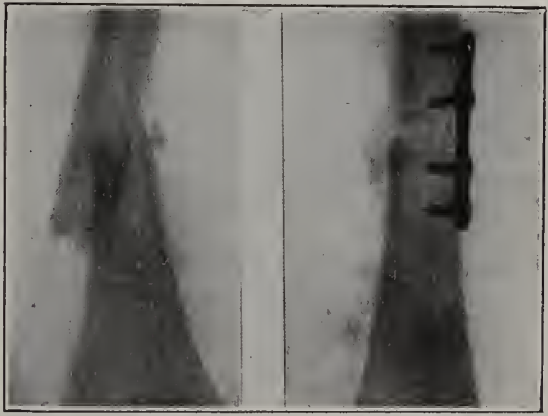
3rd. There is less extravasation into the tissues when direct fixation is employed early, than when treated otherwise, and the possibility of any intervening fragments of tissue and bone which defeats union is entirely obviated.

4th. The deformity is practically nil, and the bones are left more nearly normal and in no wise interfere with the wage-earning capacity of the individual.

5th. As a rule, fractures that have been plated have no exuberant callus.

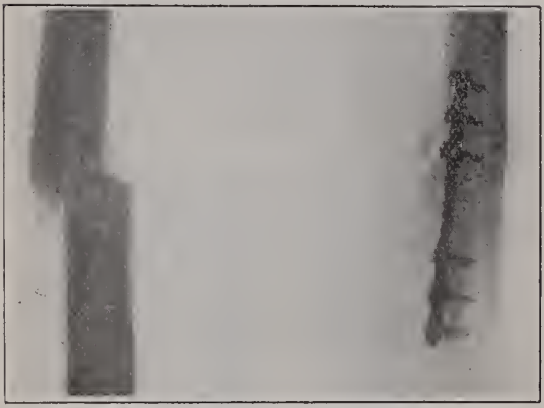
6th. In cases where other methods have failed, and much deformity is likely to follow, this method offers the best results.

While this method in well selected cases is by far the best that can be offered at present, it must not be taken that there can be no objections against it. Some of these have been in a measure overcome and are therefore not material, while others may be urged with propriety.

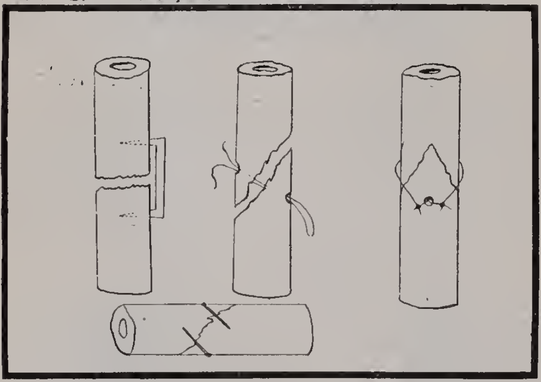


The chief objections against direct fixation of the shafts of long bones as well as other fractures are as follows:

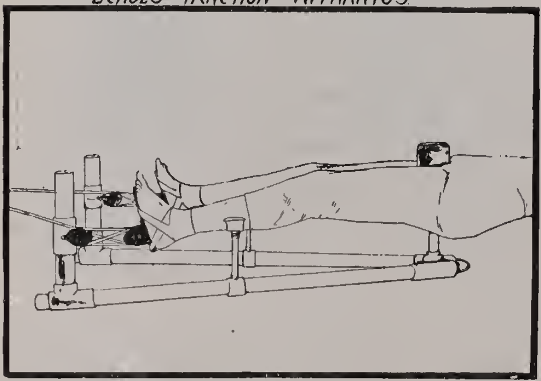
1st. The introduction of a foreign substance into the tissues, which may give rise to trouble. This disadvantage has, in a measure, been overcome by placing into the body as small an amount of foreign substance as possible. Since the tolerance of tissues to foreign bodies is inversely proportionate to the bulk of the latter, it is of vital importance, if internal splints be used, that these be of the smallest size compatible with the strain to which they are to be subjected.



2nd. The next serious objection is that of infection. This, in clean cases, if proper precautions are taken, is practically nil; but in fresh cases that have had a chance of infection, the technic as practiced by Lane of London should reduce the chances for infection materially, as it is in the open treatment of fractures that aseptic technic should be carried to the superlative degree.

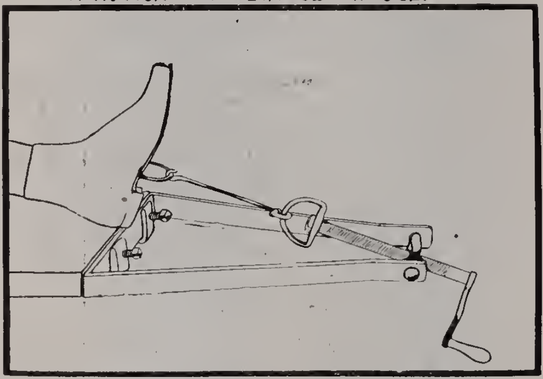


STAPLE. SCREWS, AND SILVER WIRE UNITING FRACTURES.

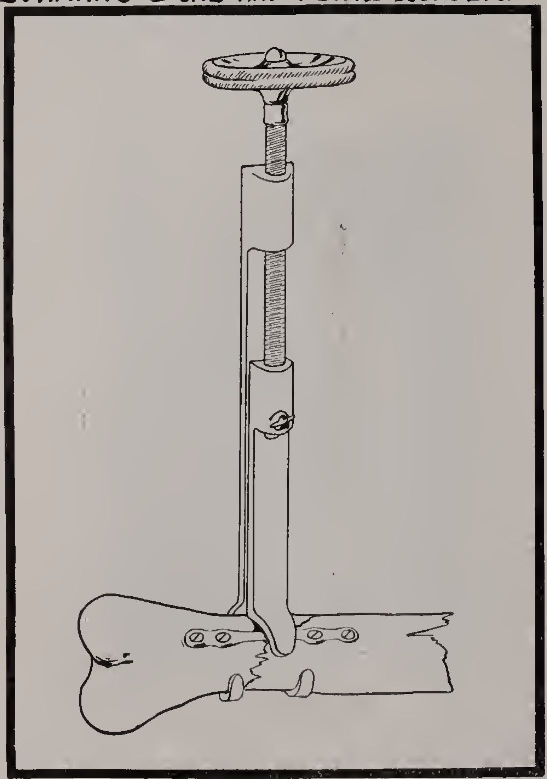


ECHOL'S TRACTION APPARATUS.

3rd. The possibility of having to remove the internal splint, which means a second operation. This is usually done under local anaesthesia when the splints have not been too deeply placed, and as a rule gives rise to no serious trouble.



TRACTION APPLIANCE IN USE.

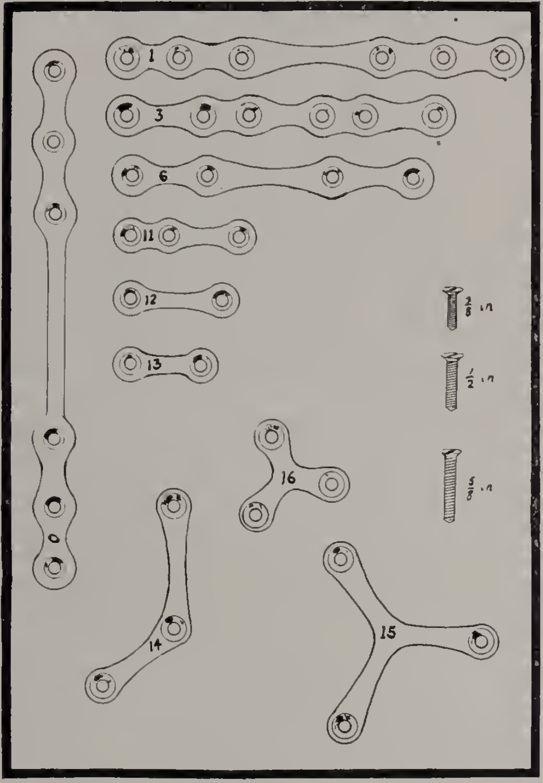


LOWMAN'S BONE AND PLATE HOLDER.

4th. The breakage of a plate and the working loose of screws due to handling or movement of the limb either immediately after its application or sometime following the operation, is by no means uncommon. This accident means immediate reapplication, as a rule. Plates as they are now made, of Vanadium steel, are less likely to break than any internal splint now in use. Screws work loose in some cases, due to the kind of screw used and also to the movement of the distal end of the fractured limb.

5th. That delay in union occurs in cases in which internal splints have been used, has been urged strongly as an objection; but in the light of present experience in the hands of those who treat many such cases, it has been found that this is not a valid claim against it.

STEEL BONE PLATES AND SCREWS.



The types of fractures of long bones best suited to the open method are spiral and oblique fractures of the shaft, fractures of parallel bones as in the forearm and leg, old ununited fractures, fractures that have healed with deformity, compound or compound-comminuted fractures in which the deformity is great and the chances of proper reduction small—in fact, this method of treating fractures of long bones is applicable to all cases when reduction cannot be made in the usual way, and where the ordinary means employed will not hold the ends in anything like respectable apposition.

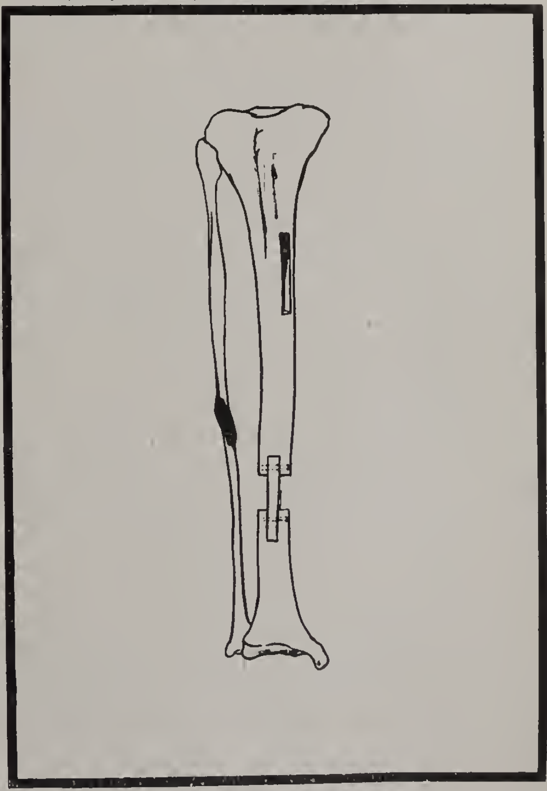
It is a well known fact that fracture of both bones of the forearm is among the hardest to treat; it matters not what kind of external splints are used, there will, in many cases, be angulation and over-riding, and the open method offers the best chance to preserve rotation.

Perhaps of all fractures, the spiral and oblique of the femur are the most difficult to reduce and keep in place, and it is in these cases that the open method when properly done gives promise of best results.

In old united fractures that have baffled the skill and resources of the surgeon and after the injection of blood, tincture iodine, boring into the ends of the bones, administration of mercury, lime salts, tonics and thyroid extract, etc., it is in these cases we are always justified in resorting to the open operation in which, barring a complication, we may confidently expect to succeed.

In cases of fracture of parallel bones, as in the forearm and leg, where union has taken place in one bone and non or fibrous union in the other, union may be had by internal splinting, either by metal plates or by an ivory or bone bridge. In case the former is used, it sometimes happens that there will be some loss of bone and the two ends cannot be apposed, due to union of the other bone in which case this latter bone will require refracturing, while in similar cases of fracture where the ivory or bone bridge is used, refracturing the other already united bone is not necessary. The space between the ends of the bones is filled with the bridge which in

BRIDGING FRACTURED TIBIA.



time undergoes changes which result in the formation of new bone.

It is not my purpose in this address to advocate the open treatment of fracture in every case, and more especially in simple fractures, as is done by some of the more radical members of our profession; for instance, Mr. Lane of London, who has given to the surgical world his ,experience. While his success has been phenomenal, it is not to be supposed that many can become so dexterious, and for this reason it is well to be conservative, as many fractures of the shafts of long bones are set in the usual way, and patients get good functional results though they are not perfect results from an anatomical point of view as proven by the X-ray.

According to Hart, surgeons are at present divided into three distinct groups regarding the treatment of fractures:

1st. Those who never operate.

2nd. Those who operate on all cases.

3rd. Those who operate on selected cases, or only after other methods have failed.

From the first class, he says we may expect the largest number of bad results and malpractice suits.

From the second class we may reasonably expect the greatest mortality.

From the third class, or conservatives, we may expect the lowest mortality and the best results.

The writer cannot subscribe to the views of those who cannot look at a fracture except in the light of an operation; and while the open method in selected cases is beyond doubt the best procedure, its employment in every case must be condemned. In order to use internal splints, one must be prepared by training in surgical work and carry asepsis to the highest degree—and that it should be done in a well equipped hospital and require special instruments goes without saying.

The application of internal splints, as stated above, requires specially constructed instruments such as bone drills, elevators, long forceps for assisting in approximating the ends of bones, special screw driver, etc. The set of instruments as devised and used by Lane will be found quite adequate for this operation.

A word regarding the technique: The skin should be carefully prepared, the incision so placed as to traverse as little tissue as possible, the hands of operator and assistant should under no circumstances touch the wound, the smallest splint compatible with the use for which it is intended should be chosen, plates and screws made of Vanadium steel are the best and should be given preference over all other splints. When for any reason their use is deemed inexpedient, either silver wire or screws alone may be used.

Th wound is made thoroughly dry before closing and all dead spaces are obliterated; the skin may be closed with sutures or metal clips. In all cases of fracture of the shafts of long bones where internal splints have been employed, some external support should be used, preferably Plaster of Paris, which gives additional security to the limb.

ORATION IN MEDICINE

IDEALISM IN MEDICINE.*

By Curran Pope, Louisville.

The Kentucky State Medical Association is the largest and most representative body of physicians of the State of Kentucky; an organization of which we are proud; an organization representing the best type of doctor; an organization that has steadfastly and unvaryingly stood for true scientific advance and the practice of the highest ideals. To this Association, which I love and esteem, I can but feebly express my deep and sincere appreciation of the honor you have conferred upon me in being chosen your "Orator in Medicine" and I "would that my tongue could utter the thoughts that arise in me." I am grateful, I am appreciative of this honor, and I shall in my address to-day try and present to you, in terse form, some of the wonderful achievements that medical and medico-scientific men have brought about, not for their own gain, but because of a high scientific idealism, an altruism born of a humanitarian love. Let us then in retrospect review some of the great achievements of medicine, those that have influenced the mental, moral and medical progress of the age and from this inventory, so to speak, gather renewed activity, better ideals, maintaining those of the past, yet reaching out further into future in order that we may live up to the newer standards, the newer progressism of the present age.

* * * *

The foundation of the conduct and the practice of the medical man is altruistic. We have been justly accused of being, so far as cold commercialism is concerned, an "impracticable crowd of fellows," and I believe that this, in the vast majority of instances is true, but the very fact that this is true, speaks highly for, and not against the fundamental basis of our altruism. The ideal is always ahead. *In futuro,* never *in presente.* It is the beacon light shining far ahead in the darkness of the night; it is a scintillating glimmer that enables us to steer the medical bark ever forward; it is a golden thread that leads through the tortuous paths of maze and labyrinth, to that goal that is, and will forever be the aim and object of scientific medicine. The ideal represents a perfect state that mortals can never hope to attain; but woe be unto the man and the woman, who has, in this ever increasing practical age, failed to appreciate to the utmost the stimulating and practical influence of altruism. For, when the bow is bent, and the arrow sent hurling along horizontal lines, it will not be long before it will enter mother earth, but it will go further and better if its trajectory is heavenward, rather than toward the earth. So it is with idealism; if we do not look upward and to the East, if we do not look the Sun God in the face, we will forever be seeing our shadows in front of us, instead of behind us, and he who strives and fights for all that idealism offers is the one that comes nearest to human perfection and takes his place among the mortals of this earth more nearly in the form of his Maker. Thus it is that the idealist establishes for himself a goal, an object that stimulates him to strive for better things in every sphere in life, in which his efforts lie. This is a period of unrest. In many senses it may be said to be a transitional period; a period of striving and groping, a searching for the ideal, and just as a flower exhibits its trophism and turns its delicate petals to kiss the golden glories of the God of Day, so the human of this period is turning his face toward the ideal, hoping and striving to bring to pass conditions more nearly what they should be, in altruism, in idealistic surroundings. In religion, in law, in politics and in medicine, we have been passing through an era marked largely by dishonesty and graft, through an era of which we cannot be proud, through an era when the making of money, mostly by questionable or openly dishonest procedures, was laudated as an act of ability and held up to the youth as an excellent model, to be closely and reverently followed. But there has come a turn in the tide of the affairs of men, when we are beginning to expect in public, private and professional life, that honesty and morality shall prevail, no matter what may be the transaction or the practice. Medicine has never lacked for altruism or ideals, it has always had good ones, but I do not believe they were so closely lived up to, nor as highly appreciated as they are at the present time. There is in medicine, as there is in all of the other affairs of men to-day, a quickening in the perspective power, an increase of the sensitiveness to appreciate all those things that are good and true and useful and it is this quickening influence that is stimulating men in every corner of this wonderful globe of ours, to seek and search for those things that will bring to suffering and diseased humanity, relief and cure, for it must be remembered that the ultimate aim and object, the *final* goal of all, endeavor medical, is to bring about that *restitutio ad integrum* of the diseased tissue to that normal condition that we call health. The attainment of health then is the ideal aim and object of the medical man, and with his quickened response, he is striving not alone to cure, but to follow that higher idealistic purpose that shall have for its aim and object, the prevention of disease, the alleviation of human suffering, and the promotion of that happiness which is supposedly guaranteed to us under the immortal constitution of our country. And without speaking in the slightest degree derogatory to any other science or any other profession, it may, I think, be truthfully said, that when the aim and object of medicine is considered, its idealism, its altruism, its hopes and its endeavors that they are by far the most important, as well as the most altruistic, for it must be truly remembered that of all professions, medicine stands almost alone in its endeavors to destroy its own business. Truly indeed is this altruistic; that one would sacrifice their own personal gain, in order that the sum total of human happiness, of human health and human activity may be more truly and certainly developed. It takes of and follows the injunction of Christ to Humanity. Thus the dream wish of the medical profession is idealism, that at the start sacrifices itself in order that great good may be done to the world at large. Of self-sacrifice, of idealism, the poets have sung in verse and meter; have sung of those victories won on bloody fields of battle, of those victories won by adventure, of those victories won by greed and gain, but they have but little time to spare to sing those glories, to chant those peons of praise to the unfaltering, unthanked and oftentimes unknown investigators, who have, within the dingy walls of laboratories, in the harrowing wards of hospitals, in unending sacrifice, worked out those problems that have to-day made possible many of the world's greatest projects. Here indeed is an epic worthy of the pen of the greatest poetic mind of the world, an epic that could speak of far more valuable victories with microscope and test tube, than have gained praise on bloody fields. To them I rear a monument of words, an appreciation.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

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From the first wail of a human life ushered into this world through the seven ages of man, and until the grim reaper of scythe and hour glass collects his toll, the medical profession becomes and is the sponsor of this life, in good and evil, in sickness and in health, in poverty and prosperity, in life and death, for no matter where you may turn, in hovel or in garret, in the prosperous homes of the middle class, or within those gilded halls where millionaires live, disease comes, and death collects that inevitable toll that is the result of a differentiation that raises man high above the animals and yet robs him of aeons of lives. As a discoverer faces the fearful odds of the Arctic winter, or swelters in the blistering sun of the tropics, facing the miasma of disease and death, so the physician is called upon, in the course of his practice to face odds in the most disadvantageous of circumstances and yet accomplishes results, that several decades ago would have been considered little short of miracles. Altruism is his guiding star, and among the interesting psychological conditions is to be found that fearlessness of those diseases, the mere name of which strikes with a sickening terror to the heart of the layman. Few, indeed, are those who have been guilty of cowardice or who have retired in the face of great epidemics; many are those who have sacrificed their lives to the altruistic devotion of medicine and who might have lived, had they cared to show the yellow streak of cowardice or raised the white flag of surrender, but these medical heroes, unhonored, unwept and unsung, have cheerfully, willingly and without thought of self or remuneration, gone to their graves, paying tribute to an altruistic principal, that were well worth emulation in other avocations of life.

* * * *

The pitiless sun beat down upon the tropical jungle. The mists of miasma and of death, hung over the slow and murky waters of the rivers and the pools. Swamps and undergrowth prevented ingress and egress, but this did not deter a gallant nation from sending hundreds of her people into these wilds, underneath the blistering tropical sun to die like dogs. And even with the bravery and chivalry of France to stir them to their utmost, failure marked their progress. Rotting corpse and bleaching bones were the mute testimonials of man's fallability, and of the power and potency of all prevading and decimating disease. It seemed as if Diety himself had placed the bane upon the undertaking, so marked with disaster, so marred with disease. And then the scene changed; another gallant nation came. Would it be possible, was it even probable that this pest hole, this burial ground of bodies and of hopes could be so transformed as to put it within the sphere of the livable for the white man. A quiet, silent man, composed one of the vanguard; a physician. All he possessed was knowledge and authority: what cared he of risk and disease and death, had he not science? Truly, this was altruism in the highest degree. Patiently, persistently, knowingly, malaria, yellow fever, the dread pest of Bubonic plague fled before the invincible knowledge of science, until medicine obtained another one of those triumphs that still opens the eyes of the world. Still another altruistic act, still another altruistic deed, for to-day, have we not a healthy, clean and marvelously sanitary Panama, where only brooding death spread afar her dark and vampire wings. Again a medical man had triumphed and triumphed without blare of trumpet, or the beat of drum. Truly medicine has given much to the world. The greatest lesson taught, the greatest work done, the one that has made the mechanics of the Panama Canal possible, was the sanitary labor done by a medical officer, who feared no foe, nor sought favor of any one; these are the men, and these are the deeds that have helped to make medicine an altruism and may it be truly said of us, that we will never fail, no matter what may be the call, lowly or highly, far or near.

* * * *

To be great and successful is to cause a group of enemies to spring about you, even as the fabled armed ones that sprung from the dragon's teeth. Medicine is the bone and sinew, the brain and brawn of the hope of the people of the world. Health and life are essential and within our hands these lie. There are many medical sciences claiming as their basis, the doctrines of Christ, that do not in any sense of the word follow those claims. Cult after cult, ism after ism, have arisen and like some meteor flashed across the horizon for a few years to be later found, a molten mass that has become extinct, while medicine true and scientific follows the beaten path and remains like the rock ribbed hills of granite, indestructable. Let me ask you to name one single great discovery whereby knowledge has been aided, suffering relieved, and disease prevented that has arisen from any of the cults or isms that oppose medical advancement. Every historic medical discovery that has been of any great permanent help to mankind, owes its origin to those workers who are within the citadel of scientific medicine. Look around you. Can you point unerringly to any one single labor that these cults are contributing for the benefit of mankind? What effort are they making toward the solution of those great problems that have ever marked the effort of scientific medicine? Can they point to anything done, or likely to be done, that would, in any sense of the word equal the discovery of Jenner, the Herulean labors of Pasteur and Koch? Can they point with pride to the knowledge imparted to the world by means of which malaria has become a disease easily and promptly controlled? Can all of them combined claim one discovery equal to that of the cause of yellow fever; have they ever sacrificed, for the benefit of mankind a few immortal spirits like Reed? Have they among them, one such as Ehrlich, whose work gives promise of eliminating the Black Plague from the earth? Have they a Morton, whose discovery changed the surgical operating room from a torture chamber and a charnal house "into a world of black velvet tranquility" to awake "grateful beyond words for the soft spell of enchanted peace?" (Sir Edwin Arnold) Have they a Lister whose beneficent discoveries have opened hope and relief, have made the entire body accessible to the surgeon and rendered the inevitable post operative horrors and lingering deaths a thing of the past? No. no, never. These labors, these few discoveries out of many, many, used but for illustration, simply indicate that the true and tried, the faithful and long suffering profession, is the *one*, the only *one* that has yielded to mankind those blessings that go to make life easier and to add to the sum total of human happiness upon this earth.

And only the Master shall praise us,
And only the Master shall blame,
And no one shall work for money,
And no one shall work for fame;
But each for the joy of the working,
And each in his separate sphere,
Shall paint the thing as he sees it,
For the God of things as they are.
—*Rudyard Kipling.*

No man to-day can truthfully say "I am not my brother's keeper." The medical profession is to-day the guardian of the health of the peoples of this earth and is its brother's keeper. In the years to come, we must give an account of our stewardship. Let us pause a moment and ask ourselves, are we faithfully, truly and scientifically trying to accomplish all those things that make for the best, the most altruistic? Prominently stands out the fact that we have and are still cleaning our own house, and if we can at this early date reach any conclusion, it is that, while it has been an Herculean task of Augean proportions, still we can truthfully say that the results indicate that we have been "*upon the job.*" No other profession can be found so systematically seeking to destroy its own financial success as ours and it must be truly said that no real advance in hygiene and sanitation, no real advance in preventive medicine has been accomplished, but what medicine has been largely instrumental in its accomplishment. The advent of a better and truer appreciation of this work must be felt by the legislator, his altruism strengthened, until back of such efforts will appear, not alone the united medical profession, but governmental power and authority, aiming at the conservation and preservation of life, a conservation as devoutly to be wished, as earnestly to be sought as the preservation of majestic waters or the noble monarchs of the forest. We *are* altruistic to-day, for we are really seeking to make our government preserve human life, health and happiness in the same proportion and with the same activity as in the preservation of the health and lives of those dumb creatures whom God has placed under our dominion.

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When the icy blasts of winter lock the harbors, rivers and rivulets of the land, when the Snow King envelops its surface in a beautiful mantle of white, when Boreas turns loose the winds from the great frozen north, and when the shades of night settle, it may perhaps be stated as an innate impulse of man, that he seeks the warmth and the shelter of his home. By contrast, the light and genial warmth attracts him, even as a magnet attracts iron filings. He loves to sit and watch the glowing coal, the crackling flame, or to see the great ruddy expanse of fire log casting out its genial warmth, that is so appealing to comfort and rest. Here, in lounging jacket, with slippers on feet, and perchance, inhaling fumes from a clear Havana, he likes to sit and read and study, and perhaps ponder over those problems that have confronted him in his work of the day. Upon the silence of the night, amid the warmth and the geniality, comes the tinkle of that modern civilizer, the telephone, and with it the message of pain and suffering that calls so urgently and so insistently for relief. The physician's high sense of duty, his high appreciation of his calling, his high understanding of the needs and necessities, his idealism that cannot be measured by many standards, makes him rise from his ease and comfort, and donning heavy boots and heavier coat, brave the storm, meet the cold and undergo the exposure necessary to reach the sufferer and alleviate his pain. There is no possible money compensation for such work; for the true physician brings not alone his medical knowledge, his skill, his understanding and relief, but he brings what is far higher, far better, and that which is most beautiful and the best part of his endeavor in life, his kind appreciation of and his humanizing influence. It is then that his idealism, his high sense of sacred duty, his strict interpretation of his calling, leads him to lay aside his own personality and to assume a nearness to his Maker. This is true of rank and file and is not the attribute of genius. It is a quality, it is an idealism, it is a labor that is shared from the highest to the lowest, from the best to the worst, an idealism that is well worth an eulogy from one more competent and more able to speak than myself. What cares he whether it is appreciated or not, for it often is not; what difference does it make as to whether he is paid or not, for he often is not; these are material questions that he likes to have as an accompaniment of his work, but the essential element, the basic principal that has guided him in what he has done, has not been the question of fear or favor, nor pecuniary gain, but rather the fulfillment of that higher idealism that has for ages upon ages made the medical profession the real and the only protectors and conservors of humanity. It is to be sincerely and reverentially hoped that it may receive the proper recognition and the true appreciation to its full, that this form of idealism may be compensated later in that future life, the hopes of which instinctively and irrisistably well up and flow out of the hearts of nearly every human being. Nor is it to be thought for one moment that he does not in the trying practice of his profession receive in many instances that help and that appreciation that tends to make life worth living, and labor worth its price. Medicine indeed would be a barred road to travel, a sterilizer of emotions, were it not that in the vast majority of cases, suffering humanity accords to us an appreciation that is an unending incentive, an unending stimulus to the further and higher practice of that idealism that has been taught us by the great Disciple.

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When war's wild alarum calls to arms with the shrill whistle of fife and the rattle of drum, when the rattle of musketry and the roar of cannon, when martial strains of music stir the human soul to deeds of valor and heroism, when man considers himself but food for cannon in the support of a principle or in the preservation of a nation, dread and terror does not enter, does not shrink a heart of courage or blanch the face, but its emotions become paramount and play no small feature in the sadness and sorrow of that hell, known as war. Few care for death, when it comes in the line of duty, even though it be a "seeking the bubble reputation, even in the cannon's mouth," but one does object, and one does dread the silent, insidious and almost certain death that stalks through camps and makes of them, despite the best officers of modern sanitation a menace. Wounds and death compare not to the havoc wrought by that infinitesimal organism, the typhoid bacillus, and perhaps nothing in the wide range of scientific discovery has done more to make camp life safe, the soldier sound, and a fighting machine, than the wonderful results that medicine has attained in the vaccination against the dread enemy of mankind, typhoid fever. This contribution to preventative medicine, this lifting of the load from a nation, this dissipation of disease is one of those medical efforts, that really rank alongside of the discovery of wireless, aviation and any other of the studenpous epochs of progress that have already marked with an undimming brilliancy, the Twentieth Century since Christ. Indeed, this discovery alone should crown its originators and the medical profession in general with a laurel wreath, in which should be entwined the respect, and the hope, and the love of mankind. Ah, if we but possessed the winning tones of some siren's voice, we might sing a song of joy and gladness that would bring from the hearts and throats of mankind hymns of praise to be repeated by generations after generations yet unborn.

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The time is fast approaching when medicine will cease to be considered as a profession simply to the end of making a livelihood. The altruistic aims of the medical man, his idealism must first of all be his guiding star and what may be the remuneration, a purely secondary consideration. When men take this view of the practice of medicine, then we must have back of us such an enlightened public as will in its turn share in the idealism of the physician, will appreciate his long years of preparation, the constant study and labor of his work and weigh him altruistically, rather than value him at the somewhat commercial level of to-day. When such a growth is reached, the physician will become the advisor, the counsellor, the refuge in sickness and in death and will no longer be the object of contumely by press and public and the target for the unscrupulous damage lawyer. It thus behooves us to press ever forward, to make our lives and efforts so truly altruistic, so well governed by that universal brotherhood of love, so highly idealistic that we shall be the disciples not alone of the great Master, but disciples of that newer and nobler medicine, that combines all the greatest gifts of a true manhood with the highest type of scientific attainment. Oh! my friends and brothers, let us rise above all the pettiness, all the little unhappiness into that great and glorious Kingdom, the Kingdom of love, of truth and of science. Then, and not till then, can it be said of us that we are truly the greatest of all professions, for it must be remembered that we can in our professional opportunities combine the work of minister, the counsellor, as well as that of Esculapius. In the name of all those hallowed traditions of medicine, in the name of an awakened manhood, let us ever and always turn to the ideals of our professional and private life to guide us in the great work ahead.

* * * *

The medical man must accept, without murmur and take his legitimate part of the cares, the sorrows of this world; his portion of the white man's burden, and bear it patiently.

* * * *

If you will but practice this altruism, this devotion and soldier-like loyalty to the profession, you will develop into that type of physician that will make for the advancement of the profession in the regard and esteem of the people.

And when the time comes for each and all of us to "shuffle off this mortal coil" it becomes us to have so lived, to have so worked, and to have so appreciated the altruism of medicine that we may with courage, with the sigh of rest yet to come, turn our faces toward the East, in the hope that we may be called to better thoughts, to better deeds, to better works with that exclamation, "Welcome, thou good and faithful servant." It is my hope that you be preserved to long years of usefulness, to activity and happiness, so that when your individual call comes, you may have attained the seventh age "Sans teeth, Sans taste, Sans everything."

NEARING THE GOAL.*

By J. G. Carpenter, Stanford.

The University of Michigan, one of the most aggressive and progressive of medical schools now teaches "Courses in Public Health" and confers "Degree of Doctor of Public Health," and is a beacon light to other institutions to follow in her path.

The Kentucky State Board of Health has made Herculean strides and scientific progress in the last several years—and has accomplished wonders for the betterment of humanity and has always stood "Excelsior" when compared with other Health Boards and is now; only handicapped by lack of funds to carry out the prodigious work that grows from day to day by arithmetical progression; fortunately the people and lawmakers are becoming more enlightened, benevolent and humanitarian and are more eager to contribute and appropriate private and public money to Boards of. Health. Health is wealth; and public health is public wealth. The legislature did a most righteous act when $30,000 was appropriated for the Kentucky State Board of Health; $25,000 for the Vital Statistics Department; $15,000 for the "Tuberculosis Commission." Yet, these sums are inadequate to properly evangelize and carry on the "Sanitary Work" in Kentucky. Behold, I say unto you the harvest is ripe but the reapers are few and the appropriations are entirely too small.

The Kentucky Health School or Health Conference held in Louisville, July 8, 9, and 10, 1912, was an unprecedented institution for any state. Kentucky is the first and only State in the world that has a State Public Health School for its county, city and State officers. The conference was a success from the alpha to the omega. About every county health officer was present and there were present many county judges, private citizens and distinguished sanitarians from other states to aid in this great work.

The health officers were seeking knowledge and light for the public welfare *pro bono publico* and were not seeking the "Golden Fleece." There is no golden fleece in the Kentucky State Board of Health. Thesus obtained the golden fleece centuries ago.

The shortest distance between two points is a straight line. If one starts right and goes right he will end right: therefore to succeed in health affairs, we started right, have gone right and will end right. Life is too short to waste time and money and be Quixotic—no health officer can afford to play Don Quixote and Sancho-Panza; yet we have members of our noble profession who unfortunately for themselves, have tried to imitate these latter characters, and with an evil purpose and have brought shame and disrepute upon themselves and are in disrepute "forever and forever". Too much praise cannot be said in behalf of the Kentucky State Board of Health and its county and city boards of health.

Kentucky has the best Health Officer in the world; he was predestined to be a promoter of good things for public good; born to be victorious, great and illustrious and his name is forever written upon the pages of history; he is a hero of sanitation and public weal; the Sampson of the medical profession; a David in battle; a benefactor to both friend and foe. You will always find Dr. J. N. McCormack in the right, where ever he goes and in whatever he does.

To the Legislature of Kentucky, and to the Model Governor, Hon. James B. McCreary, we say prodigious thanks for the wise health laws enacted recently.

The Tuberculosis Commission with an appropriation of $15,000 was a humane act; the tuberculosis crusade and enforcement of the Vital Statistics Laws have reduced the death rate of tuberculosis from 6,500 to 5,400 per year; death rate of typhoid fever and diphtheria to 7% each, the death rate for Kentucky has been reduced from 16½ to 13%.

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*The valedictory address of the retiring President, J. G. Carpenter, Stanford, Tuesday, October 29, 1911.

The Kentucky State Society for the Arrest and Prevention of Tuberculosis has sent the Health Car and lecturers into most of the counties of Kentucky; and photographic and magic lantern lectures given to the public free of charge, on tuberculosis, typhoid fever, dysentery, diphtheria and other infectious, communicable and contagious diseases including, hydrophobia, tetanus, hookworm and pellagra. The Public Health Car properly equipped with sanitary apparatus, charts, drawings, tablets, statistics, magic lanterns, photographic views, and able instructors visited almost every county and railroad town in the State and was of immense educational value.

The State Board of Health through its most worthy Secretary is now engaged in investigating hookworm disease and pellagra. Holding public clinics and treating hundreds of cases in many eastern counties and will soon eradicate hookworm disease from Kentucky; and before another State Medical Association meeting, will have given us the etiology and proper treatment of pellagra. Kentucky physicians have led the profession in the past and present, why not in the future?

Dr. Lillian South has proven the housefly spreads the hookworm disease. The public drinking cup has been dispensed with, and gone into "innocuous desuetude," and a great factor in the production of communicable, contagious and infectious diseases has been abated.

Many churches have side-tracked the "Public Communion Cup" and individual cups have been adopted.

Sanitation in religious matters is of the greatest benefit by prophylaxis.

Through the State Board of Health four Kentucky medical schools have met with Titanic disaster and the profession has been blessed by having fewer and better doctors each year. The quacks have been dislodged and driven from Kentucky. Charley is *non est*. The Lord moves in mysterious ways His wonders to perform.

Pure Food and Drug laws are daily enforced; dairy herds, dairy products, meat markets bakeries, groceries, restaurants, hotels, barber shops, lavatories, foundries, factories, churches, school houses, theatres, city, county and State public buildings are now inspected by boards of health and kept sanitary.

Four years' course in medicine and surgery prior to graduation and a double protection to the public and the profession are two rigid examinations, one by the medical college faculty, the other by the State Board of Health before diploma can be granted, has been of inestimable value in making fewer and better physicians. Reciprocity has been established between Kentucky and many other states.

The Legislature endorsed the Kentucky State Board of Health and its most worthy Secretary, Dr. Joseph N. McCormack and the State Medical Association by "vive voce vote," and our good and benevolent Model Governor, James B. McCreary endorsed and signed every bill passed by the Legislature for the betterment of the Kentucky State Board of Health and the citizens of Kentucky and vetoed the obnoxious and damnable bill No. 56. The Governor said, "Kill the tuberculosis cows and save the mothers and babies" —so say all true physicians and loyal Kentuckians.

House Bill No. 235 creating the Tuberculosis Commission, permits any county of two or more counties to combine and have a County or District Tuberculosis Hospital. A petition signed by 20 or more names (voters) presented to the county judge is sufficient to call an election, open the polls and vote for county or district tuberculosis hospital to be maintained by taxation. Each hospital to have its board of trustees and officials. The legislature endorsed our Board of Health laws and favors our present laws, relative to the method of appointing all members of the Board of Health. The latter being an institution of inestimable value in saving the lives of the people and preventing and arresting diseases, epidemics and pestilence. The public institutions have been taken out of politics and bi-partisan boards appointed. The Kentucky State Medical Association legally has the honor of nominating the ablest and best physicians in the State and profession for the asylums, hospitals, Kentucky State Board of Health, feeble-minded institutions and the Governor appoints on merits and qualifications, physicians of the highest attainments to those institutions, regardless of politics *pro bono publico*.

About every law in Kentucky upon the Statutes for the betterment of humanity and our noble profession has been rendered by the help, intelligence, wisdom of the magnanimous and sagacious, humanitarian and the best Health Officer in the world, Dr. Joseph N. McCormack, of Bowling Green, Kentucky.

Kentucky has the best statuary laws regulating the practice of medicine and surgery and sanitation of any state or province in the world, "So mote it be!" If any among you would be great and honored by the profession and the people, let him become as a servant.

United we stand: Divided we fall. We are united, happy and rejoicing on the way. "I am not bound to win, but, I am bound to be true; I am not bound to succeed, but I am bound to live up to what light I have. I must stand with anybody that stands right—stand with him while he is right and part with him when he goes wrong.'' The ''bete noir,'' of our profession is that we have some ignoble physicians to whom gratitude is a stranger, who could serve their country better by being hewers of wood and drawers of water; driving burros across the western plains; chauffeurs for some rich man, or, a roustabout on some small steamer plying the Kentucky River, or a clown in some circus. And if they are allowed to stay in the profession they, like Nicodemus, must be born again. Truth says, ''Guilty of professional treason and unprofessional conduct.'' Justice says, ''impeach them, try them, convict them, and expel them from the profession.'' Mercy says, ''Give them another chance to do right, live right and die right—forgive them, issue a pardon; but teach them that no insurrectors are allowed in the medical profession nor in Kentucky. That no physician whose ambition is concocted in envy, hate, jealousy, selfishness and ingratitude to rule or ruin, or acquire office, by ignoble and unscrupulous and unethical methods shall be tolerated. We will not tolerate the Diazefection of the presidency nor, the Mexicanization of our noble profession.

The disreputers brought themselves into disrepute.

It seems some physicians are forever bellecose; full of envy, hate, jealousy, and duplicity. Start wrong, go wrong, end wrong. Like Don Quixote and Sanco-Panza reduce themselves to the reduction ad absurdum and spectators behold and exclaim, *quod demonstrandum erat.*

Schley on finding Cervera's fleet in Santiago Bay, telegraphed, ''We have bottled the enemy and corked the bottle;'' later, he replied, ''the victory is ours. Glory enough for all.'' All praise and honor to the State Board of Health and the Kentucky State Medical Association.

We do not tolerate the Mexicanization of the State Medical Association and State Board of Health, nor, the Diazefection of the Presidency, but believe in this doctrine, the greatest good to the greatest number of people; for the people and by the people, equal rights to all and exclusive privileges to none. Therefore, we endorse the State Board of Health for the great good it has done and the few, if any, mistakes it has made. And rejoice that we do belong to the cock-a-hoop club and take no stock in the ''Sis-pop-cockewahs.''

Shall we do like the great teacher, Pythagoras, who when any of his pupils became truants or false to his teachings, dismissed them as professionally dead, erect tomb-stones with their names inscribed, then passed on to higher, nobler, and greater achievements—or shall we do the Gentle Shepherd when a sheep be gone astray, leave the ninety and nine and search diligently for that which is gone astray?

And if so be he find it; ''verily, I say unto you he rejoiceth more over that sheep than the ninety and nine which went not astray'' Even so, it is not the will of the Kentucky State Board of Health that one of these little ones — the ''Sis-pop-cockewahs'' — should perish.

Through the Herculean efforts of the State Board of Health we have less sickness, fewer epidemics, a lower death rate, prolongation of life. Pure Food and Drug Laws, pure water supply, pure milk and butter, open air life and sunshine, better nurses, fewer and better physicians and surgeons, fewer medical schools. Have you not read and heard of the Basilisk whose looks, breath and hissing have proven fatal to those who looked upon it or heard it hiss its blasphemous voice, in the past? May not the errors and fatalities of some physicians have been due to their efforts to simulate the Basalisk rather than the true or ideal doctor?

SPECIALISM.

There are now two or three good paying specialties open to physicians, viz.: general practice, obstetrics and chiropody. Some physicians will find the position of chauffeur to some rich man or firm more lucrative than the practice of medicine.

The tinkering minor gynecologists are still abroad in the land, and they as well as the incompetent obstetrician are a prolific source of ills and misfortunes to patients who entrust their lives, destinies and pocket books into their hands. In many communities abortions and curettements are entirely too numerous. Yet it must be a paying business to the tinkering minor gynæcologist.

I repeat abortions are entirely too numerous. If all lacerated pereniums and cervices were surgically repaired by competent surgeons, and if patients in confinement had skillful and competent physicians to attend them in accouchment the tinkering minor gynecologist would have no business in their line and patients would not be robbed from week to week with no chance of a cure.

Graft in medicine and surgery as in politics, continues to exist and is an evil that should be quickly eradicated from the profession. Competition is stronger and more fierce all over the land than ever before.

Less sickness—and better physicians and surgeons—fees smaller, collections more difficult to make, and large bills and surgical fees will rather be smaller in the future than in the past.

From year to year doctors will become more disgusted with medicine and surgery as a business, will quit the profession and seek other lines of business that will be more remunerative, restful and healthful to mind and body.

The code of ethics is ignored by many physicians: the Golden Rule is not practiced as it should be; and sorrows and heart aches exist that should not be. Doctors' inhumanity to each other have caused countless millions to mourn and caused many physicians to regret they had chosen the profession of medicine and surgery as a life work. There should be a special chair of ethics in every medical college and ethics should be taught to students, and examination of proficiency should be required the same as in other branches, before graduation.

The Councilor is an officer of the greatest good to the local physicians of his territory and his frequent visits adds power and dignity to the profession and helps to keep the county societies more progressive and their members in peace and harmony, and unity and cause each physician to be more industrious and studious and skilful, and have a great respect for himself and confrers. Yet during the past years some councilors have been derelict of duty, have failed to make their annual and semi-annual visits to each county society and the consequence is that some societies and their members are retrograding instead of making rapid progress and better physicians.

A post-graduate course of study should exist in every county. Yet it it the exception to find this valuable course in existence in most of the rural districts or small cities.

A certificate of health before marriage should legally be required by the contracting parties before any marriage is consummated. We owe this to posterity as well as to ourselves and profession and tax payers. We have too many degenerates and deviates, too many invalid wives and mothers, to many blind children from ophthalmia neonatorum, too many pure and innocent women infected who have to go on the operating table on account of injudicious marriages.

TOO MUCH TAXATION, TO THE TAX PAYERS.

The sterilization of criminals both in the House of Reform and the penitentiaries should be enacted by law to deter others from committing crime and to stop the reproduction of criminals by heredity.

We believe the time is now at hand when an Old Physicians' Home should be established—for the practice of medicine and surgery is a noble profession but a poor financial business. We believe in profit and skillful service, good living, business prices for labor and skill, and a protective tariff on a sound money basis for health, home, happiness and progress and for sickness, old age and a rainy day. Therefore remember the time may come when you will be old and in the way.

About one-third of the medical schools in the United States have been disbanding during the last ten years on account of not being up to the standard and that were conducted in a spirit of commercialism. The standard of graduation is higher, the course of study prolonged through four and five years; the expense of a medical education is much greater; graduation from a high school, or the degree of A. B. or A. M., is required of the medical student before he can matriculate at a medical college, will preclude the possibility of many becoming physicians in the future. The unethical, ignorant, intemperate, immoral, weak-minded and vicious physician as well as those addicted to the drug habit in the future will have to retire from the profession or take a back seat; for the time is at hand when the people and profession demand ideal doctors.

The Medical Defense League as an adjunct to the State Medical Association has been of the greatest benefit and yet, malpractice suits continue to come forth from time to time on the flimsiest pretenses. The medical blatherskite, the ambulance chaser and the shark lawyer are still upon the earth and going about seeking whom they might catch.

"Behold, I stand at the door and knock; if any doctor will open, I will enter and abide with him and he with me and teach him the way of life more perfectly."

I present a patient, on one side are the skilful practician and surgeon; on the other is the medical blatherskite and disreputable shark lawyer. I ask which of these will you crucify. The good people and the tax-payers answer "crucify the blatherskite and shark lawyer." So say the legal and medical professions.

Whatsoever is true; whotsoever is just; whatsoever is pure; whatsoever is right; whatsoever is profitable, think on these things, let the pass-word be *semper peratus* and unity, peace and brotherly love always prevail in our beloved profession. Never be afraid or dilatory in calling a skillful and wise ethical consultant, when needed. Remember the law and Holy Writ declare from the mouths of two witnesses is accepted in court though a thousand laity try to controvert them.

The surgical field, especially the treatment of fractures affords a prolific one for malpractice suits, the ambulance chaser and shark lawyer are always ready, willing and anxious to prey upon the honorable, skillful meritorious physician and surgeon. Malpractice suits are brought primarily for illegal pecuniary gain, and not for real damages, on three grounds. First on account of ignorance or incompetency, second, neglect; third, experiment. Therefore be *semper paratus*. If the attendant desires to quit the case, he must notify and give the patient sufficient time to procure another professional attendant. Experiments are done on lower animals and in post-mortem room. Ideal surgery is done in the post-mortem room and not upon the living. In surgery we strive to have ideal results and do the best we can for each individual case; each case being a law unto itself. The age of the patient, the condition of health; the violence of traumatism; the seat of injury; injuries done to adjacent organs, joints, muscles, arteries, veins and nerve and lymphatics and whether near, or remote from the vital centers; the complications that follow and whether the wound be infected or not, will materially influence the issue in the final treatment of compound fractures. Very much depends upon whether the fractured bone is transverse, longitudinal or oblique, or whether the distal and proximal joints are involved, and whether the case is a simple compound fracture or a compound cominuted fracture, or a compound complicated fracture, or the latter with infection of wound; with complication of a near joint; or injury to muscles, nerves, arteries and veins. Complications that attend compound fractures:

Laceration of muscles or tendons.
Perforation or laceration of artery.
Perforation or laceration of vein.
Perforation or laceration of nerve.
Injury to lymphatics.
Separation of the fractured ends of fibrous tissue.
Excessive callus formation.
Diminished callus formation.

I feel sorry for any doctor who has had a malpractice suit. I have had three, but I do not need any sympathy, because I mopped up the earth with the fellows. A malpractice suit is something I really enjoy, and, like Alexander, I am now crying for more worlds to conquer.

I tell you to beware of the quack, the scoundrel, the villian in the medical profession. It is he who aids and abets the lawyers. Without such doctors the lawyers would not bring suits. We must call in as consultants men who will go into hot water over their heads for you, who will stand on the brink of perdition and reach down and pull you out if necessary. The thing of getting a percentage on consultation work—dipping down into a jackpot and taking out a percentage, I do not believe in, but I find much of it going on. I was asked recently what I paid for consultations, and again I was asked what I got when I sent a patient to a specialist. I have found that this practice is growing all over the land. The spirit of commercialism is so rampant that a meritorious doctor is liable to have a malpractice suit at any time, so I say unto you, take warning. As Delilah said to Sampson: "Awake! Awake! The Philistines be upon thee!" The shark lawyers are going around taking inventories, and finding out what doctors are succeeding and are supposed to be making money, just like a vulture, with his claws out, ready to swoop down upon you. So I say, watch out!

During my term of two years as president, I have delivered 60 public addresses on tuberculosis infection, communicable and contagious diseases, including hookworm and pellagra; 46 in churches; 14 in court houses and public school buildings; having addressed at least 10,000 people; speaking at two or three places the same day; and have made 35 medical society speeches.

The doctor who wins is the man who does,
The doctor who makes things hum and buzz.
The doctor who works and the doctor who
acts,
Who builds on a basis of solid facts;
Who doesn't sit down and dream,
Who humps ahead with the force of steam;
Who hasn't time to fuss and fret,
Who gets there every time, you bet!

Lincoln County has been highly honored by the State Medical Association. Three times the presidency has been bestowed upon Lincoln county physicians and without seeking the office. First, Dr. Hawkins Brown, of Hustonville; second, Dr. Steele Bailey, and third upon your humble servant, September 1910. Many other counties would rejoice to have the presidency even one time. For all these blessings conferred upon my confrers and myself I say thanks, profound thanks.

As your president I have tried to do my duty faithfully and earnestly, have striven to be fair and just to all, trusting the greatest good and success would attend all of you. I have tried to be a professional and public benefactor, and now am about to return to you what you so kindly and generously gave me; viz.: the Presidency of the State Medical Association.

The Association has been kept in a vigorous and healthy state, aggressive and progressive and aseptic and has added blessings fifty and one hundred fold to the profession and State and it can be truly said of this Association as of the State Board of Health, of all, it is the best.

KENTUCKY IN REGISTRATION AREA.

Bowling Green, Kentucky., March 11, 1912. —A telegram has been received at the Bureau of Vital Statistics, informing W. L. Heizer, State Registrar, that the results for the year 1911 were so satisfactory that they warranted Kentucky's admission into the registration area of the United States, which comprises fifty million people. This admission is only possible when the government determines from official sources and through investigation that 90% of the deaths are being registered in the State office.

COMPLETE EXONERATION.

The report is a complete exoneration of Dr. J. N. McCormack, Secretary of the State Board of Health, and other members of that body, setting forth that "We indorse and commend the State Board of Health and the officials comprising same as being conscientious, capable and vigilant in the execution of their important duties, and we recognize the inestimable credit to which they are entitled for their well-directed and judicious efforts in the matter of the preservation of the health and lives of the citizens of Kentucky."

Adoption of the report by the House membership put "out of running" Mr. Herrington's bill looking to a change in the method of naming members of the State Board of Health, the committee setting forth the present law on that matter is a good one. It is recommended in the report that the State Inspector and Examiner be called upon to examine the accounts of the State Board of Health hereafter, the same as he examines the accounts of the other State institutions. The committee also recommends that some time in the future the headquarters of the State Board of Health be brought to Frankfort, but not just at present. The report in full follows:

TESTIMONY HEARD.

We, the Committee on Kentucky Statutes, by whom an investigation of the State Board of Health of Kentucky has been conducted and completed, beg to report that we have held numerous sittings and have heard testimony for both sides of said investigation, and arguments which were presented in the summing up of the great mass of testimony adduced to your committee, and the conclusions reached by your committee in said investigation are as follows, to-wit:

First, we beg to report that it is the conclusion and finding of your committee that House Bill No. 74, in connection with which this investigation has been held, should be and the same is hereby reported with the expression of opinion that same ought not to pass.

Second, we commend the present law relative to the appointment of the members of the Board of Health by the Governor as being effective to the end of securing efficient, capable and reliable officials for the Board of Health of the State of Kentucky.

CONSCIENTIOUS OFFICIALS.

Third, We endorse and commend the Kentucky State Board of Health and the officials comprising same as being conscientious, capable and vigilent in the execution of their important duties, and we recognize the inestimable credit to which they are entitled for their well-directed and judicious efforts in the matter of the preservation of health and lives of the citizens of Kentucky. We find that it would not be expedient under present conditions to remove the Department of Health from Bowling Green to Frankfort; but your committee recommends that such removal be effected at such future time as will not impair the efficiency of the board in its work or impose unnecessary cost in such removal and the re-establishment of the department at the Capitol.

Fourth, Owing to the increased appropriation recently made for the State Board of Health and the great proportion which the Department of Health of this State is rapidly assuming, we would recommend that the State Inspector and Examiner examine and inspect said department, and that same be hereafter regularly examined and inspected in the same manner that other State departments and institutions are examined and inspected.

Fifth, Your Committee files herewith as a part hereof an itemized statement of the expenses incident to the investigation made by it in the connection aforesaid, and recommends that an appropriation be made for the purpose of discharging the indebtedness indicated by said statement of account.

SANE FOURTH OF JULY AND NATIONAL HOLIDAYS.

To the strenuous efforts of the editor of the *Journal of the American Medical Association* and boards of health, of newspapers and magazines and laity have been educated to have these celebrations, with less loss of limbs and injury to important organs, as the eye, nose and ear; greatly lowered death rate each year following the passage and enforcement of municipal laws forbidding the use of explosives in celebrations. Conserving, protecting body, limb and life from disaster and death . And those so unfortunate as to receive injury at these times have had their lives saved by early and judicious use of anti-toxines.

In former years the rich went to Paris, France, to be treated and protected from the rabid dog or other animal; later a Pasteur Institute was established in New York City and Chicago, now the anti-rabic treatment of vaccine can be brought to the patient's home even in the remote parts of the country for successful treatment and used by the able family physician.

Our State Board of Health has accomplished remarkable success in the administration of anti-rabic serums and the prevention of hydrophobia.

Again another discovery by Dr. Flexner has been a blessing to the profession and humanity, the anti-meningitis serum giving a lowered death rate and protection of life.

The work, responsibilities, and benevolences of the Kentucky State Board of Health grows more and more from week to week, the departments of bacteriology, vital statistics and sanitary engineering have had to increase their forces from time to time to do the enormous work thrust upon them. In fact, we need two or three State Sanitary Engineers to do the necessary work that confronts the Board in Kentucky.

The State Board of Health and its auxiliaries are the greatest and best institutions of the State, they should be supplied with an abundance of legislative, municipal, and county funds to carry on the great work of sanitation, conserving of life and prevention of disease and death.

In conclusion: Colleagues, we are passing away "Like the stars of the morning, loosing their light in the glorious sun." So let us pass away peacefully, gently, lovingly, only remember the good we have done.

DIAGNOSIS OF EPILEPSY.*

By John J. Moren, Louisville.

Last winter a patient was referred to the University nerve clinic with the report that he was suffering from epilepsy. He was beyond forty years, had lived a rather checkerer career, but enjoyed good health. In the past year he had had two or three convulsions with a history of no convulsions or loss of consciousness in early life. The history of syphilitic infection several years ago, the presence of rolling speech, increased reflexes, loss of memory and other characteristic symptoms lead to the diagnosis of general paresis.

Last June I was asked to see a man thirty years of age, who had a good family and personal history. No head injuries or infections. The only evidence which might influence the diagnosis was the fact that he had used alcohol quite frequently in his college days. About three weeks before the date of his marriage he had a convulsion. Regardless of this attack he married. Two weeks afterwards he had two convulsions in one day, one in the forenoon, and the other in the afternoon. A physician saw the second attack and made the statement: "It looked like a regular fit." Blood examination showed evidence of chronic malaria. Two or three months later he reported that he had had no more attacks.

After the chairman of this section insisted upon my writing an article for this meeting, the two reported cases prompted my subject. There are but few daily accidents or diseases that will upset a home like a fit or spasm. There is nothing more distressing to the parents to contemplate than the possibility of their only child being an epileptic. In nearly twenty years practice in neurology many phases of this subject have been observed. Many cloudy pictures noted in early life have been watched to grow and cast sorrow over the whole family, fortunately, some have been benefited, and go free of convulsions. In looking over the records of a number of cases one is impressed with two facts. First, the similarity of the general history and course of the disease; second, the variation as to the time of developing of supposed or relative causes.

Turner's classification separates the different types into (1) organic, (2) early (those beginning in infancy, (3) late, (4) idiopathic. The idiopathic or essential epilepsy is the type under consideration. We may have one of four manifestations. First, grand mal; second, petit mal; third, psychical equivalent; fourth, narcolepsy.

It might be asked, what is epilepsy? The best definition I have seen is by Wood. A disease of unknown pathology, in which at irregular intervals and without obvious existing causes an abnormal disturbance of nerve force occurs, in most cases accompanied with loss of consciousness and very frequently by convulsive disturbance.

Gowers gives the following: A recurring sudden brief discharge of nerve energy in some part of the cerebral cortex, not due to the normal cause of such discharge.

The seat of the disease is in the cortical cells of the brain or their intimate connection. There are three important facts which establish this statement. First, the brain is the seat of consciousness; second, irritation by tumor, etc., of the cortical area produces convulsions; third, spasms cannot be produced after destruction of cortical areas. Strictly speaking epilepsy is a symptom, but on account of the frequency of cases presenting only a history of repeated attacks, without other symptoms, it is awarded the distinction of a separate classification and description as idiopathic epilepsy.

"Certain clinical features are common to almost all convulsive seizures in which consciousness is lost. If the onset is sudden, as it usually is, the patient is apt to fall down and injure himself unless already recumbent. If the muscles of the mouth and jaw are involved and saliva is freely secreted, the mouth foams; if the tongue or cheeks are bitten the foam is stained with blood. Clenching of the jaws will make breathing labored, stertorous, and ineffectual. If the muscles of respiration are greatly involved, much cyanosis with congestion of the face, neck, and exposed parts will be observed. The convulsive movements are typically clonic, limited in range, purposeless, and accompanied by more or less rigidity. If the rigidity is marked, the amplitude of the movements will be correspondingly reduced, so that the condition may even become one of stiffness and tetanic (or so-called tonic) spasm."

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

In most cases of epilepsy there is a feeling or warning, an aura, that proceeds the attack. This may originate in any of the five senses, sight, hearing, taste, smell or feeling. The aura usually remains the same, and covers the same track in each attack. In the symptomatic or Jacksonian epilepsy the aura is equally important but the character is quite different. It is more pronounced and positive disturbance of function. It may be a muscular twitching or a distinct tingling, etc. These warnings change with the increase in size of the tumor, blood clot, etc. They may become permanent as the growth involves the nerve structure.

AFTER SYMPTOMS.

In simple epilepsy after the attack is over no symptoms of any significance are noted. I have seen a distinct mental hebitude last for several days, but such cases are the exception. Many patients feel even brighter after the attack than before. In symptomatic epilepsy the tingling feeling that initiated the attack may remain, or in its place a numbness may be felt. A weakness or paralysis may appear in the limb that suffered most in the convulsion. These symptoms remain a variable time after the attack. All symptomatic epilepsies coming under my observation have shown more or less mental change with each attack, and sooner or later show a distinct change in personality. The rapidity of this change is never noted in simple epilepsy. The latter ultimately become mentally affected, but the time is expended over many years.

On account of the similarity of pictures, confusion often arises which leads to errors in diagnosis. Let it be remembered that a convulsion of itself does not constitute epilepsy. The most important features are the loss of consciousness and the repetition of the attacks. Convulsions may arise from many causes, and often errors arise by misinterpreting a single factor as the most important. The essential question to arise is, what was the cause of the convulsion? To satisfy ourselves it becomes necessary to study the etiological factors. In no disease is the family and personal history more important than in epilepsy. Often the physician does not see the patient in an attack, but depends upon the description as given by the parents.

My experience has forced me to believe that heredity is one of the most important factors. It will surprise you to see how frequently the tendency to convulsions occurs in the family tree. All cases of essential epilepsy do not show epilepsy in the family tree, but instead, insanity, psychopaths, etc., are as common. It is interesting to note the leading predisposing factors in various countries. France, alcohol; Germany, insanity; United States and England, ancestral epilepsy. I do not believe, and neither does the Mendel theory of eugenics show that epilepsy is directly transmitted. It is the irritable nervous system and tendency to convulsions, particularly when affected by injury, disease, or toxaemia. There is a normal equilibrium of the discharge of nerve force. Many causes may lead to a disturbance of this equilibrium, and in some instances alter the structures of the nerve tissue, so that slight exciting causes may produce an explosion of nerve force which may be confined to a local area or include the whole muscular system. This explains the variety of causes, in one infection, another injury, alcohol, shock and fright, etc.

The age of the patient at the time of development of epilepsy often gives us an opportunity for differential diagnosis. Essential or idiopathic epilepsy occurs most frequently between the ages of five and fifteen years, but frequently histories are obtained where the onset varied. I have seen cases develop at fifty and show absolutly no signs of any known disease. However, cases giving the symptoms of simple aura, convulsions, deep sleep, followed by headache, and for the next few days really feel better than before the attack, without any other symptoms, are not uncommon after adult life. But cases occurring after the age of thirty years should be looked upon with suspicion, all tests and careful clinical histories should be made to determine, if possible, a plausible cause of the attack.

Some one has said that we should look upon the first attack in any case as originating from some cause, and the attacks that follow are due in part to the first attack as much as to the cause, hence, we should be particularly careful to detect the cause of the original attack. Often this is impossible to say with any degree of certainty, particularly in younger people. In adults we have a more certain group of causes giving rise to convulsions.

Convulsions in infancy should be watched carefully and not dismissed as worm spasms, indigestion, etc. Remember that something caused that spasm, and from the fact that the child had one spasm, others might occur. I have seen cases treated as epilepsy with bromides and dieting but at the same time the child was permitted to drink from three to six cups of coffee a day. Five or six cases have been relieved by discouraging the use of coffee, coca cola, etc.

Rachitic convulsions are not typically epileptic unless of long standing, which develops into the epileptic habit. In addition to the irregular spasm you have the signs of a nutritional disturbance so characteristic of Rachitis. I need only recall the pernicious effect of irritation as worms, indigestion, teeth, etc., as factors in disturbing the sensative child. The point we should watch is the repetition of the attack.

Frequently adults report suffering from epilepsy that develops after thirty years of age, who have had no injury or infection. In two instances I found that convulsions occurred in early life, and in another the patient suffered hemoplegia following whooping cough but made a complete recovery of the paralysis. This, doubtless, explained the cortical irritation.

What influence has the history of syphilis? One writer quoted by Mott claims that 7% of all epilepsy may be attributed to congenital syphilis. Evidence corroborating such findings is rather hard to obtain. Possibly the free use of the Wasserman test might show some interesting results. We see many children born of syphilitic parents, but how few cases of epilepsy are in such children. Infantile cerebral paralysis with epileptic seizures are excepted. Dienlafoy claims that congenital syphilis may cause epilepsy, especially the masked form. Fournier regarded all cases occurring after the age of thirty-five to be parasyphilitic. The majority of cases occurring after thirty years can, as a rule, be attributed to some local irritation or toxemia, but to say that all are parasyphilitic is a broad statement. Mendel noted in 904 cases, 5.86% occurring after forty years. Koehler in 1352 cases, 7.45% after forty years. In all of these there were no syphilitic cases, (Mat).

There is no doubt but what many cases of convulsions in adults can be traced to syphilis. In many instances the attacks belong to the symptomatic or Jacksonian epilepsy due to gumatous growth. Others have absolutely no localizing signs but suffer at irregular intervals from typical epileptic convulsions and do not respond to iodides, but are controlled by bromides. This is the class described by Fournier as parasyphilitic epilepsy.

INJURY.

No class of cases gives me more concern than those giving a history of an injury in early life. Oftentimes it is a fall on the floor, from the cradle, bumping the head, and in some instances, an actual injury. Several years afterwards the child has a spasm. Possibly other factors may enter into the causes of the original spasm, and the injury did nothing more than disturb the patient at the time, but we must not lose sight of the fact that a little injury, of any kind, is liable to disturb the equilibrium of the child who is not endowed with the best nervous constitution and in such cases be the cause of epilepsy.

It has been my practice to look into the family and personal history very carefully and if sufficient evidence is obtained to suspect an irritable nervous system with absence of localizing symptoms, I attach very little importance to the history of the injury.

An interesting group of cases are those attacks of classical convulsions, sometimes irregular or masked types occurring about the time of the menopause. I have seen convulsions develop with suspension of the menstrual period; and have also noted the irregular or masked type during the change. In some instances anaemia plays a big factor in these cases. These cases bring up an interesting question that is being discussed at present, is any part played by the thyroid secretion? Last summer Dr. Willmoth spoke to me concerning a case of the above type that was favorably influenced by the thyroid extract after other measures had failed.

Often the initial sign of approaching general paresis is a fit, attack, or convulsion. In many it is a sudden giving away, a fall to the ground with but slight disturbance of consciousness. After this the relatives notice a change in personality. Others may have a convulsion without aura and not attended by the usual tonic and clonic stays so characteristic of an epilepsy. These attacks may be at long intervals or the patient may have from one to three in a few hours. Frequent repeated attacks are especially suggestive of cerebral syphilis. So in these active paretics we may have a gumatous meningitis. A close study of the nature of the attacks and of the patient during the interval will clear the way for a diagnosis.

I need only refer to the absolute inconsistency of a hystero-epileptic attack as the most consistent and characteristic diagnostic feature. In all diseased conditions giving rise to any form of convulsions, the course of development and clinical history of the attacks conform to certain types which can be recognized in other cases, while in hysteria each patient is a star, a dramatic actor in a play never before produced, never produced in the same way, and impossible to imitate. However, there is a neurotic that suffers from attacks or spells that sometimes approach convulsions. These attacks suggest epilepsy, especially to the patient. I refer to the psychaesthenics, a most unfortunate individual. Instead of losing consciousness these patients are in a state of apprehensive fear and self-consciousness. They become so wrought up and self-conscious that collapse follows. The skin is bathed in moisture, heart rapid, no alteration in reflexes unless they be active or exaggerated. There is no tonic or clonic contraction, but there may be a rigidity which is often noted in nervous people.

VERTIGO.

Vertigo may be the cause of confusion in recognizing the lighter or petit mal attacks. In vertigo there might be a warning of uncertainty of position, but never loss of consciousness; while in petit mal you may have a slight vertigo and always a disturbance of consciousness. This may be for only a moment but the patient realizes that there has been a lapse of time which he cannot recall. Vertigo is often mentioned in the diagnosis of the middle attacks of epilepsy but my experience has been that some cause can be found for the vertigo which would not explain epilepsy. The original attack in some cases is a faint as from pulling teeth, close room, fright or shock. In these attacks without motor disturbances you are without one of the striking manifestations of epilepsy. One would naturally consider fainting or hysteria. In the former you will have the relaxation, sweating, rapid and weak pulse. In hysteria there are no symptoms and the attack follows some emotional disturbance. In the cases of epilepsy that I have seen the relaxation has not been pronounced nor the pulse especially rapid. These cases should be watched, especially if they occur with the menstrual period. Those cases occurring in my practice gave no history of an aura. A common history is a spasm, faint, or convulsion appearing about the time of the menstrual period, possibly the child is fourteen and the period has never appeared. By way of consolement the parents are told that she will be alright when the period is well established. In some instances, when chlorisis or other anaemic states are present, the attacks are mere "faints" with more or less vertigo. Others have irregular convulsions with slight tonic and clonic stage at the first attack. Subsequent attacks may follow but each one in appearing more and more like epileptic seizures and the menstrual period is still all but regular. When these children's history is studied you will find a heredity history or an infantile or early childhood history that materially affects the individual. Their physical and mental make-up show a child varying from the normal.

One of the most confusing classes are those that develop regional jerks. I have had under my observation for the last year a young lady twenty-five years of age. Four years previous she had suffered with nightmares and dreams and during the day had what she called "jerks." If she was writing the whole body would suddenly become tonic, she would jab the pen in the paper, throw things from her hands, etc. During these jerks she has a lapse of consciousness and on several occasions she has had regular convulsions. The physical examination revealed very active and equal reflexes, on several occasions one pupil has been dilated but reacted to light. Examination of the eye showed error of refraction. Haemoglobin was 85%, she ate a great deal of sweets, suffered from constipation, menses lasted only one day and during this time the jerks were worse. This patient gave me a great deal of trouble reaching a diagnosis, but I am satisfied that it is a mixed type of idiopathic epilepsy.

Sometimes in adults focal signs or regional jerks located in the arm or leg, bring up the question whether such manifestations are not spinal epilepsy, according to Gowers, instead of arising from cortical irritation. We should not feel too sure of our diagnosis in such cases, as brain tumor often begins with convulsions. One point in tumor is that the attacks are as a rule separated by much longer periods of time than in essential epilepsy. However, the latter may occur two or three times a year. Such cases should be studied to be able to reach a conclusion.

The mental equivalent is rather rare. Only one case showed a tendency to a mental disturbance instead of an epileptic seizure. This man suffered from petit mal. One day while sitting in the office another patient came in. The epileptic got up went to the door and asked why this man was coming into his house. Fortunately, I was near and saw the circumstance. I spoke to the epileptic and assured him that it was alright. In a few seconds the attack was over but he remembered nothing. The facial expression was peculiar to the petit mal cases, otherwise, you would have thought the man alright. These cases are of interest on account of the legal side, and are to be recognized by the change of personality and repetition of the attacks as in other types.

I report the following case, not so much as a mental equivalent but to illustrate how these cases might wander and commit some crime they are absolutely unconscious of.

S., age twenty-seven, bank clerk, has a very neurotic family history. Patient advanced in his work very rapidly. Married at twenty-five and was divorced two years later. He never drank but smoked a great number of cigarettes. Was a great lover of music and tried to compose several pieces. He began to complain with a urethral irritation which was diagnosed stricture. He became interested in Cook's trip to the North Pole, and read everything he could obtain. One day he told his father he felt like taking a train and going somewhere, but nothing was thought of his remarks. One day he left without notifying his people and the next thing that was heard of him was from Chicago, ten days after he left home. He does not know where he went or what he did, but awoke in Chicago and realized that something was wrong with him, but was able to give his father's address.

Two years ago I treated a young man twenty-six years of age giving a healthy family history. He began to suffer with a vertical headache, worse on changing position. Sleep was not refreshing, he felt tired in the morning. He noticed that he could not laugh or talk as he formerly did, knew what to say but could not speak it. He began to feel sleepy after eating. These attacks increased and would occur at any time, and he claims to have lost consciousness on several occasions. His mother noticed that he was cranky and hard to please, and did not want people around him. No alteration of reflexes, or symptoms leading to brain complications. His urine contained an excessive quantity of indican and oxalate of lime. Treatment directed to correct the digestion relieved these sleepy spells, and I thought he was well, but later his family physician told me that the attacks were more positive than ever. He is now accused of murder, having killed a man without the slightest cause for such an act. He is absolutely unconscious of having killed or hurt anyone.

I do not believe that I have ever encountered a true case of narcolepsy. The following case came under my observation.

H., age twenty-three, painter by trade. Mother suffered from migraine, otherwise, family history is good. The patient gave no history of syphilis or head injury. At sixteen he had shingles around neck, at eighteen he had gonorrhea, and after this he began to suffer from sleepy spells. He began to drink and used alcohol quite freely for three or four years. His bowels were very obstinate, going for three or four days without moving. At time of examination he had a pulse of 44 and very active reflexes, otherwise no symptoms of cerebral disorder. These attacks of sleep came on at any time, and without warning. One attack came on while he was painting the roof of a house. He served in the army but never had an attack while on picket duty, even if he had lost a great deal of sleep. The attacks would last from a few seconds to thirty minutes, and could be stopped or awakened by cold water or a keen slap. I lost track of this man and do not know the outcome, but feel that his attacks were dependent upon digestion, anaemia, etc., and not true narcolepsy. However, it was the most suggestive case that ever came under my care.

Nervous individuals with an atonic dyspepsia suffer from drowsiness, and sometimes are compelled to take a "nap," but correct the digestion and the drowsiness will disappear. In these cases we must remember the hysterical trance, the patient "sleeps" for hours without other symptoms. Their circulation, etc., all remain good, often arouse long enough to take food. The mental defective sometimes have a stuperous state but these should not be mistaken for narcolepsy.

CONCLUSION.

The most characteristic diagnostic sign in essential epilepsy is the repetition of the seizures without intervening symptoms. The most important duty of the doctor is to seek the cause. Often this will never be known, if so, the word "idiopathic" would not be used. Do not forget the family history as it will help you to guage the effect of certain exciting causes, and prevent over-medication, which is not an uncommon occurrence. Allow yourself plenty of time to reach a conclusion, as the development of organic disease of the nervous system is sometimes very slow, after some trivial accident they start with a clinical picture that cannot be interpreted on the first examination.

THE PUBLIC HEALTH PROBLEM—CONSTRUCTIVE EFFORTS TOWARDS ITS SOLUTION.*

By W. L. HEIZER, Bowling Green.

(STATE REGISTRAR OF VITAL STATISTICS.)

For centuries disease and death have been regarded as inevitable and accepted as a matter of course. When plague, smallpox, cholera or some other dreadful scourge appeared in a country, their pathway was strewn with countless thousands of dead and dying. No intelligent effort was made to stay their progress for the cause of the disease was unknown; and so, for thousands of years, there have been scattered in ignorance over the face of the earth the diseases which to-day claim their dreadful toll in human suffering, usefulness and life. Various theories were advanced as to the cause of disease, only to be disproved by time and events.

With the development of the science of biology and the revelations of the microscope in studying ultra-microscopic life, bacteriology revealed the true nature of many of our diseases and the world awoke to find that in the truth of the Divine statement, "Whatsoever a man soweth, that shall he, also, reap" lay concealed the cause of most of the physical ailments.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

Smallpox, diphtheria, yellow fever, malaria, cholera, plague, typhoid fever, typhus fever, cerebro-spinal meningitis, pneumonia, abdominal inflammations and other scourges of mankind, have had the searchlight of medical research turned upon them, and been forced to reveal a simple truth which in darkness caused countless millions of men to suffer and die. Until these discoveries were adopted and proved by the medical world, the prevention of disease remained the doctors' problem, and it is still regarded so by the great majority of people who naturally are in the dark as to the cause and cure of disease, and the effect of illness upon a community, state or nation.

It has come to be recognized by our educator, including leading ministers, teachers, physicians, lawyers, editors, statesmen, womens' clubs, and social workers that the prevention of unnecessary sickness is a social problem of the highest order and requires the highest degree of efficiency and cooperation of all our educational forces to solve it satisfactorily. In this connection, we have prepared a chart showing for ten nations of the world the condition of illiteracy, the amount of money spent by the state for educational purposes, and the death rate from typhoid fever. This disease is a type of all the communicable diseases, and its prevalence in a community, state or nation is a fairly good index to the intelligence of a people.

It will be noticed that Spain has 75% of her population illiterate, spends only twenty-five cents per inhabitant for educational purposes, and has the highest death rate from typhoid fever.

Italy follows with a similar condition, and this relation through the list is shown with a fairly steadfast ratio. Germany and Switzerland with least illiteracy has correspondingly the least number of people die from this easily preventable disease.

The same kind of intelligence directed against the other leading communicable diseases, will produce a like result. These statistics for a period not exceeding five years are accurate, being obtained from the report of the Registrar General of England.

For comparative purposes, a second chart has been prepared for 24 states of this country, showing the prevalence of illiteracy, amount of money spent for educational purposes, per capita wealth in manufactures and agriculture and the death rate from typhoid fever. In fourteen of these states, the death rate is obtained from reports of accurate Vital Statistics, Kentucky being included in this number, and the first Southern state to be recognized by the Federal Government as having practically complete Vital Statistics.

Summarizing this chart, it can be said that in those states having least illiteracy and most money spent for educational purposes, there is the greatest wealth per capita, and the lowest death rate from typhoid fever, while in those states having most illiteracy and least money spent for educational purposes, there is less wealth from manufacturers and agriculture, and highest death rate from typhoid fever. In the absence of adequate vital statistics (and their value becomes plainly apparent in the proper adjustment of this economic proposition) the death rate in these from typhoid fever, tuberculosis, dysentery, etc., can be only presumptive. But when it is considered that this particular region has most of the two million cases of malaria, and three million cases of hookworm disease, and that illiteracy is as high or higher than in Kentucky, which has the highest death rate in 1911 from tuberculosis and typhoid fever, it can safely be presumed that the death rates from this region from these diseases are as high or higher than in Kentucky mortality. It would indeed be interesting if reliable statistics could be had of the relative immorality of these several states and countries so that the relations of poverty, disease and illiteracy to morality could be shown, but it is safe to say that where disease, poverty and illiteracy are, there will immorality be, also, and to accomplish successfully their task of spiritual regeneration of the people the clergy must direct no small part of their effort towards solving the public health problem.

The time has come when the minister must break away from the time-worn and conventional funeral service in which consolation is given the bereaved ones by stating that it is God's will that some young mother or son, father or daughter, or helpless infant should be poisoned by eating or drinking the bodily excretions of some one ill of typhoid fever, or dysentery. Such untruths as these proclaimed to thousands in distress work possibly the greatest hardship of all upon those who are trying to lower the sick and death rate of a people. The writer was compelled to listen to statements like these at the funeral service of a year-old baby when 24 hours earlier he had worked for hours trying to remove from its stomach cabbage, tomatoes and beans that had been fed to it by an ignorant mother contrary to medical advice.

The leading representatives of the church are in touch with advanced medical science but a large percent of those who occupy the pulpit have not modified their personal belief to conform with God's truths as discovered by medical research, and continue to permit prejudice, superstition and ignorance to guide their people towards unnecessary sickness, poverty and premature death.

I would not be guilty of saying that our state is not cognizant of her problems and is not making constructive efforts to solve them. The establishment of our normal schools; the generous support of her university, her good roads agitation and legislation; the advance step made lately by our public schools in teaching practical things to our rural boys and girls; the organization of our corn clubs; women's clubs; rural and High school supervision; the establishment of the Kentucky Tuberculosis Commission; the increased activities of the State Board of Health in creating and maintaining Bureaus of Bacteriology, Sanitary Engineering and Vital Statistics; the liberal news and editorial support of Kentucky journalism; all point to a great awakening and reform in this best of states. The wheels of progress are spinning in old Kentucky and it is for her advancement that they be put "in gear" and by cooperative work attain the best results made manifest by increased wealth and manufactures, better tilled soil and larger yield; better citizenship, morally and physically; longer life, freer from disease, and an intellectual people second to none.

With this purpose in view, it is in order in this consultation of doctors of Kentucky's illness to review her symptoms and look conditions squarely in the face that a proper treatment may be administered.

It is at once apparent that human life and health are the most valuable assets of a state or community. It is needless to remind this body that without human life and health to direct this city's activities the property in it would be worthless and that Kentucky without her people would be as a desert. Thus it is that political economists have succeeded in placing on human life a fairly accurate money value. That these values are not fictitious but real it is but necessary to recall that within a lifetime, human beings were bought and sold for the profit in dollars and cents that could be extracted from the labor of a healthy, working negro.

This chart has been made to represent the expenditures of Kentuckians each year and is proportional in its construction to the fairly accurate statistics upon which it is based. It will be seen that we are spending and losing each year from diseases that can and ought to be prevented, in unnecessary drug, doctor, nurse and undertakers' bills, including loss of time of those sick and the loss of those who die of preventable diseases $28,450,950 or four times the entire amount of revenue of the entire state. For every $940.00 the people lose from this cause, the state expends $1 to save that amount and this loss happens thirty thousand times every year or in other words, every time the clock strikes the hour, there has been spent by the people of Kentucky the preceeding hour $3,232 and this has been going on for years and will continue to do so unless conditions are changed by organized effort.

It costs the people of Kentucky about five millions of dollars every year to maintain their county organizations to look after the observance of statute laws. They pay willingly about the same amount to support their ministers, their churches, etc., to maintain the spiritual laws and yet in most counties of the state there is less than $75 spent each year to support county boards of health which properly equipped at a cost not exceeding five thousand dollars for each county would save them enough money, paid as tax to doctors, druggists, nurses and undertakers and loss of time, to pay all the running expenses of their counties and the state besides saving them from the mental and physical distress from unnecessary illness.

We spend yearly in Kentucky about $6,000,000 to educate our citizenship and yet we import nearly all our manufactured articles that can and ought to be manufactured here where coal, material and labor are abundant; ride over miserable roads which are a constant tax; wear out our lands; and leave our graduates in such a frame of mind that one thousand and thirty-five of them died last year from eating excrement from some one ill of typhoid fever; our girls come out of our schools, marry and poison their babies with dirty, fly-laden milk, pies, cabbage and other food unfit for infants, to the extent that 1,134 of them under two years died of summer complaint last year and thousands were made seriously ill from the same cause. Our educated citizens spent hundreds of thousands of dollars each year as tax for fixing up bad teeth which under proper treatment as a result of efficient teaching ought not to require one cent for repair. They complacently permit tuberculous subjects to sow millions of the seed of their malady in the public places, their homes, or in their own lungs or the lungs of their families, by spending the night in infected beds, in using infected milk so that last year (which is an average one) 5,181 of them lost their lives and 30,500 of them will proceed with the funeral procession. We are harboring about 150,000, probably more, victims of hookworm disease and spending uselessly thousands of dollars of our good school money trying to educate sick children when thirty cents of medicine and an hour's cooperation of school officials with competent boards of health would convert these liabilities into assets for Kentucky.

We send to the East for insurance each

year about six million dollars net, when some plan could be devised to keep this money at home and have it invested in factories to give our own people employment.

The enlightenment of the people along health lines must rest largely with the teachers in the public schools and yet we have not now, nor have we had in use in our public schools, any sort of school physiology that deals with these practical, life-saving problems of the coming mother and father, and our teachers are so poorly paid, few can afford to remain in the profession.

The pulpit and the press have a share of responsibility in solving the problem and it can be said that a considerable number of ministers and editors in Kentucky have contributed largely to molding public opinion. The editorials of the Courier-Journal relative to matters of public health have been of inestimable value to the people of Kentucky, and show a real appreciation of the duty of the press in this social reform.

The speakers who have preceeded and who will follow me are representatives of the most powerful factors in determining the destinies of Kentucky, and have been invited to contribute to the plan of coöperative public health work because we believe that only in union of these forces can the best results of each be secured. Human welfare and life, being the basis for material prosperity and intellectual and spiritual superiority, become the concern of every constructive statesman, editor, minister, teacher, physician or citizen.

The physicians of Kentucky stand ready to answer any call to better health conditions, and their profession stands alone in their spirit of unselfishness and altruism in that every effort they make to suppress disease is a sacrifice of the money which would come with the prevalence of disease. They will address your audiences, inspect your schools, hold free dispensaries for those who are not able to pay.

The Bulletins of the State Department of Education and State Board of Health should contain articles mutually helpful to the two activities and should reach every teacher, doctor, state and county official, editor, Y. M. C. A. reading room, member of womens' clubs, in Kentucky. The Bulletin should be the official organ of this "league offensive and defensive for every well-wisher of Kentucky," and its columns should be filled with articles by members of these organizations which would have to do with the physical, moral, intellectual or social development of the people.

The chief objects of cooperation of these forces then, it would seem, are:

1. Educate the public in the proper methods of preventing disease, through the public schools, press, pulpit, and from the platform.

2. Furnish a sufficient number of competent speakers, and large audiences to greet them.

3. Elect county and state officials who would establish a county department of health with a competent health officer, well paid, to devote his entire time to prevention of disease in his county; a laboratory where immediate microscopic and chemical analysis could be made, free of charge, of bodily excretions from persons ill and of water and milk.

4. Enactment and enforcement of sanitary laws to guarantee pure food, water and in good roads, better schools, higher salaries air to the people.

5. Secure larger investments by the State for more competent teachers, and increased appropriations to the State Department of Health.

COUNTY SOCIETY REPORTS

Bourbon—The Bourbon County Medical Society held an important and well attended meeting at the court house, Thursday evening. Quite a number of visiting professional men were present from Lexington, Newport and Cincinnati.

The following officers were elected: President, F. L. Lapsley; First Vice President, George Rankin; Second Vice President, John Gilkey; Secretary, C. G. Daugherty; Treasurer, D. B. Anderson; Censor, Dr. Cook, of North Middletown; Orator, A. H. Keller; Delegate, Wm. Kenney.

An interesting paper on the "Relation of the Medical Profession to Society," was read by **W. W. Anderson**, of Newport, which was well received and iscussed by all present.

The society is deeply interested in the new W. W. Massie Memorial Hospital, and the members are giving every possible aid and support to the success of this much needed institution.

After a unanimous vote of thanks had been extended to Dr. Anderson for his excellent paper, the meeting was adjourned to meet again in January.

All present then repaired to the basement of the court house where a bounteous luncheon was provided by Drs. Fithian and Daugherty. Many toasts were given and a most enjoyable time was spent. C. G. DAUGHERTY, Secretary.

Calloway—The Calloway County Medical Society held its annual meeting December 4th, 1912, and elected officers as follows, for the ensuing year:

President, S. D. Yongue, Murray; Vice President, E. B. Curd, Hazel; Secretary and Treasurer, W. H. Groves, Murray.

The society also elected to meet on the second Wednesday of each month rather than the first Wednesday, as here before.

W. H. GROVES, Secretary.

Carlisle—The Carlisle County Medical Society met at Fish Lake, Sept. 3, 1912, with C. D. Shelbourne, vice-president, in the chair, the president, T. J. Marshall, being absent on account of sickness.

Minutes of previous meeting read and approved.

The regular program was at once taken up.

T. L. Lamkin being absent, his paper on "Otitis-Media" was omitted.

H. P. Mosby failed to prepare his paper on "LaGrippe."

J. F. Dunn read a paper on "Rheumatism in Children." His paper was directed principally to endocarditis, a common complication in the disease.

H. T. Crouch opened the discussion. He laid great stress on the rest treatment.

W. L. Mosby recommended early elimination, preferably with effervescent citrate of magnesium.

The society adjourned for dinner which consisted of more than two fishes and five loaves, and as the multitude consisted of less than 5000, all had an abundance.

Reassembled at 1:30 and the discussion continued.

R. T. Hocker uses diuretics and diaphoretics also liniments applied hot.

C. D. Shelbourne, at present uses little or no salicylate of sodium as he has never gotten any perceivable results from its use.

H. T. Crouch uses sodium salicylate with such good results that the patient thinks he has had a dose of morphine.

H. A. Gilliam uses aspirin and Dover's powders with excellent results.

W. Z. Jackson also took an active part in the discussion which was closed by the essayist.

R. T. Hocker read a very able paper on "Malarial Fever." He gave the origin, pathology, etiology, symptomatology and treatment in such a concise manner that there was little room for discussion.

H. A. Gilliam favors isolating the patient in order to prevent the mosquito from carrying infection from the patient to others.

A lengthy discussion followed, but the treatment as suggested by all the "discussers" was quinine, with some little variations.

Members present: W. Z. Jackson, H. A. Gilliam, H. T. Crouch, C. D. Shelbourne and J. F. Dunn.

Several of the ladies were present and all reported a delightful time.

The next meeting will be held at Bardwell on December 3.

J. F. DUNN, Secretary.

Christian—The Christian County Medical Society met in regular session in the city courtroom, Hopkinsville, Tuesday, December 17, 1912, with F. M. Stites, President, pro tem in the chair. The following members present: Stites, Bell, Erkiletian, Harned, Backus, Paine, Beazley, Keith, Barnes, Gaither, Candle, Lackey, Perkins, Thomas, Gates, Rice, Southall, and Sandbach.

The minutes of the last meeting were read and approved.

H. P. Sights' application for membership was voted upon and unanimously received.

As this was the meeting for the election of officers, the President called the election and the following officers were elected:

President, F. M. Stites; Vice President, J. W. Harned; Secretary-Treasurer, W. S. Sandbach; Censor, D. H. Erkiletian; Delegates, F. P. Thomas, and W. S. Sandbach; Alternates, J. J. Backus and J. R. Paine.

W. A. Lackey moved that the society purchase a typewriter for the use of the Secretary. It was unanimously passed and the President appointed a committee composed of Drs. Lackey, Harned and Bell, to raise the funds and purchase the typewriter and present it to the Secretary.

This was one of the most harmonious meetings of the year and everything points to a larger and better society for the coming year than ever before.

W. S. SANDBACH, Secretary.

Henderson—The election of R. H. Moss as president, the election of the other officers and preliminary arrangements for a big banquet were the chief features of the meeting of the Henderson County Medical Society, held at the Y. M. C. A. building Monday evening. Thirty-three physicians from the city and various sections of the county attended the meeting, which was unusually interesting. Dr. Moss, one of the best known physicians of the city, was honored by being chosen to head the society for next year, succeeding Dr. James W. Cooper, of Smith Mills.

E. Branson was chosen vice president; P. Ligon secretary and treasurer, and Arch Dixon, censor. W. A. Poole and W. T. Travis were selected as delegates to the 1913 meeting of the Kentucky State Medical Association in Bowling Green, with H. S. Zernow and E. L. Busby as alternate delegates.

Soon after the new year has been ushered in the physicians will assemble at an elaborate banquet. W. W. Neel, D. O. Hancock, W. M. Floyd and W. S. Forwood form a committee to make arrangements for the affair

Nearly every physician in the county is a member of the Association, and the health of Henderson county is due in no small measure to the regular meetings of the association, where ideas are exchanged and important papers read.

P. LIGON, Secretary.

Harrison—At the regular meeting of the Harrison County Medical Society on December 2nd, 1912, the following officers for 1913 were elected:

President, M. McDowell, 8 Court St., Cynthiana; Vice President, J. P. Wyles, R. F. D. 8, Cynthiana; Secretary, W. B. Moore, Farmers' Bank Building, Cynthiana; Treasurer, B. B. Petty, R. F. D. 6, Cynthiana; Censor, three years, W. F. Phillips, R. F. D. 4, Cynthiana; Delegate, two years, J. E. Wells, Deposit Bank Building, Cynthiana.

M. McDOWELL, Secretary.

Jefferson—The 181st Stated Meeting of the Jefferson County Medical Socitety was called to order by the President, Edward Speidel, on Monday evening, September 23rd, 1912.

Minutes of previous meeting were read and approved.

The Secretary read a communication from the Secretary of the Retail Grocers' Association of Louisville, inviting the Jefferson County Medical Society to co-operate with that Association, and other local organizations, in some concerted action with a view to improving the present telephone situation.

Moved by Dr. Simpson that a Committee of three be appointed by the Jefferson County Medical Society, to confer with similar committees from the various organizations, with a view to ascertain the temper of local business men with respect to the use of one telephone, and that this committee be instructed to report the result of its activities at regular meeting of the society two weeks hence.

Motion duly seconded and carried.

There being no further business before the society, the scientific program was proceeded with as follows:

Cerebro-spinal Meningitis; Report of Cases, by Donald K. Clark. Discussed by Vernon Robins, W. A. Jenkins, E. S. Allen, and in closing by Dr. Clark.

Movable Kidney; Report of Case, by H. H. Grant. Discussed by J. Garland Sherrill, Albro L. Parsons, Ap Morgan Vance, and in closing by Dr. Grant.

Pituitary Gland; A Pharmacological Consideration, by Virgil E. Simpson. Discussed by F. C. Askenstedt, W. A. Jenkins, E. S. Allen, B. J. O'Connor, F. T. Fort, Harry J. Phillips, Albro L. Parsons, Walker B. Gossett, Edward Speidel, and in closing by Dr. Simpson.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 182nd Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, September 30, 1912.

Minutes of the previous meeting read and approved.

UNFINISHED BUSINESS.

Louis Frank, Chairman of the Committee on Entertainment of the Kentucky State Medical Association, made a report of the activities of his committee to this date, in which he mentioned the proposed plan of holding clinics on the day before and the two days following the meeting; and asked that the society endorse or reject same. After considerable discussion it was moved by Dr. Frank that it is the sense of this society that such clinics shall constitute a portion of the entertainment of the State Society. Motion duly seconded.

Dunning S. Wilson moved as a substitute for Dr. Frank's motion that the Entertainment Committee shall proceed under such lines as they may see fit in entertaining the State Society. Motion duly seconded and declared carried.

There being no further business before the society ,the scientific program was proceeded with as follows:

Sciatica: Report of Two Cases, by **John J. Moren.** Discussion by W. C. Dugan, J. Garland Sherrill, Milton Board, Jno. D. Trawick, and in closing by Dr. Moren.

Resection of the Intestine—In a case of Strangulated Femoral Hernia. Exhibition of Specimen, by **Jno. R. Wathen.**

Report of Cases, (1) Abscess of Liver, (2) Suppurating Cysto-Adenoma of Ovary, (3) Embryonic Mixed Tumor of Kidney, by **William H. Wathen.** Discussion by Louis Frank and in closing by Dr. Wathen.

Posture, in Junior Adelescence; by **Jno. D. Trawick.** Discussed by Harry J. Phillips, Jno. R. Wathen, Guy P. Grigsby and in closing by Dr. Trawick.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 183rd Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, October 7th, 1912.

Minutes of the previous meeting were read and approved.

UNFINISHED BUSINESS.

The President called for the report of the Committee appointed two weeks previously, to look into the matter of a single telephone system. Dr. Simpson, Chairman of the committee, asked that the committee be given further time, upon motion duly seconded and carried, this request was granted.

There being no further business before the society, the scientific program was proceeded with as follows:

SYMPOSIUM ON PHYLACOGENS:

Rheumatism Phylacogen, **Edward B. Richey.**

Mixed Infection Phylacogen, **E. S. Allen.**

Erysipelas Phylacogen, **W. A. Jenkins.**

Gonorrhoea and Rheumatism Phylacogen, **B. F. Zimmerman.**

Upon motion duly seconded and carried, Dr. Miller, of Detroit, was granted the privilege of the floor and asked to lead the discussion.

The Symposium was then further discussed by M. L. Ravitch, Harry J. Phillips, C. G. Forsee, Herbert Bronner, C. H. Harris, J. A. O. Brennan, J. Rowan Morrison, Virgil E. Simpson, F. T. Fort and in closing by Doctors Allen and Richie, after which Dr. Miller answered numerous questions on the subject.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 184th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, Monday evening, October 14th, 1912.

Minutes of previous meeting were read and approved.

UNFINISHED BUSINESS.

Louis Frank, Chairman of the Committee on Entertainment of the Kentucky State Medical Society, made a final report of arrangements, which have been made to entertain the visitors.

NEW BUSINESS.

The application of J. R. Peabody, duly approved by the judicial council, was presented and he was unanimously elected to membership.

The Secretary read a communication from W. W. Klein, member of the society in which he proposed to issue the monthly programs of the society at his expense, provided he be allowed to insert therein one page of advertising of the Martinsville Sanitorium. Upon motion duly seconded and carried, Dr. Klein's letter was ordered referred to the executive committee with instructions to report to the society for final action.

There being no further business before the society, the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

Nephrectomy; Specimen and Patient, by **J. Hunter Peake.** Discussion by W. C. Dugan and in closing by Dr. Peake.

Report of Cases Treated with Neo-Salvarsan, by **George H. Day**. Discussion by H. J. Farbach, Herbert Bronner, M. L. Ravitch, J. A. O. Brennan, Carl Weidner and in closing by Dr. Day.

Stokes-Adams Disease, by **Henry Enos Tuley.** In connection with the essay **Leon K. Baldauf** showed some very interesting specimens. Essay was then further discussed by J. Rowan Morrison, F. C. Askenstedt, Carl Weidner, Sr., and David C. Morton.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 185th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, Monday evening, October 21, 1912.

Minutes of previous meetings were read and approved.

The Secretary presented the application for membership, and L. C. Ritter, by demit from the Fayette County Medical Society, was unanimously elected.

The President stated that the society by virtue of its membership was entitled to another delegate for the Kentucky State Medical Association, and called for nominations: H. A. Davidson, J. R. Morrison and David C. Morton were placed in nomination. Dr. Gossett moved that the nominee receiving the lowest number of votes on the last ballot be dropped and the balloting proceeded with. Seconded. Upon putting the motion, the president declared it lost, therefore, the nominee receiving the highest number of votes on the first ballot, would be declared elected. After the balloting the tellers announced the following result: H. A. Davidson, 17; J. R. Morrison, 16; David C. Morton, 12. The President declared Dr. Davidson elected and stated that as the society would probably increase its membership during the coming week, to a number sufficient to entitle it to still another delegate, if there was no objection, he would declare Dr. Morrison elected to fill the prospective office.

There being no further business before the society, the scientific program was proceeded with as follows:

Salvarsan Treatment; Fatal Termination. Report of Case by **H. J. Farbach.** Discussed by S. T. Dabney, Herbert Bronner, Geo. H. Day, J. A. O. Brennan, and in closing by Dr. Farbach.

Gallstones in the Common Duct; Report of Case, by **Jno. R. Wathen.** Discussed by Louis Frank, W. C. Dugan, J. Garland Sherrill, and in closing by Dr. Wathen.

Some Observations of German Surgery, by **Lewis S. McMurtry.** Discussion by Jno. W. Price, Wiliam H. Wathen, Lee Kahn, and David C. Morton.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 186th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evneing, October 28, 1912.

Minutes of the previous meeting were read and approved.

The meeting having been delayed because of a prior meeting of the Association of County Secretaries, until after the time for the essay had arrived, the President stated that, if there was no objection, he would call for the reading of the essay and take up the clinical case program afterwards if there was time.

ESSAY.

Sciatica and Treatment, by **J. W. Turner**, of Jeffersontown. Discussion by Samuel E. Woody, J. T. Windell, J. G. Carpenter, Andrew Sargeant, Jno. G. Cecil, and in closing by Dr. Turner.

CLINICAL CASES AND SPECIMENS.

Some Experiences with VanCott's Vaccines, by

Bernard J. O'Connor. Discussion by Edward B. Richey, J. Garland Sherrill, Arch Dixon, of Henderson; Arthur T. McCormack, of Bowling Green, and in closing by Dr. O'Connor.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 187th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, November 4, 1912.

Minutes of previous meetings were read and approved.

There being no further business before the society, the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

An Interesting Case of Recurrent or Cyclic Vomiting, by **W. F. Boggess.** Discussed by H. N. Leavell, P. F. Barbour and in closing by Dr. Boggess.

A Fatal Surgical Hemorrhage, by **E. S. Allen.** Discussed by W. C. Dugan, A. D. Willmoth and in closing by Dr. Allen.

By permission, Dr. H. N. Leavell exhibited specimen and reported case of Appendicitis Obliterans.

ESSAY.

Cerebral Abscess (A Clinical Report) by **W. C. Dugan.** Discussed by M. F. Coomes, Curran Pope, W. F. Boggess, John J. Moren, Hugh N. Leavell, and in closing by Dr. Dugan.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 188th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, November 11, 1912.

Minutes of previous meeting were read and approved.

The applications of C. L. Moir and Geo. H. Bohannon were presented and duly approved by the Judicial Council and they were unanimously elected.

The Secretary read communications from the President and Secretary of the State Society, congratulating the Jefferson County Medical Society upon the most successful meeting, just ended.

The Secretary announced the consummation of a lease between the Jefferson County Medical Society and the Louisville Theosophical Society for rental of the hall every Sunday night during the ensuing year for the sum of $150.00.

There being no further business before the society the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

Purulent Meningitis and Sinus Thrombosis, (Case Report and Specimen) by **I. Lederman**; Report of Cases, by **Gaylord C. Hall.**

By permission, C. H. Harris presented a specimen of stone weighing one and a half ounces, removed from the bladder of a child 12 years old.

Doctor — — Blank, by permission, presented specimen of Prostatic Hypertrophy, weighing 6 1-2 ounces, removed by Dr. Irvin Abell.

ESSAY.

Obstetric Anaesthesia, by **T. K. Van Zandt.** Discussed by B. C. Frazier, D. C. Morton, B. J. O'Connor, John J. Moren, C. H. Harris, Virgil E. Simpson, William Keller, J. D. Hamilton, Edward Speidel, and in closing by T. K. Van Zandt.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 189th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, November 18th, 1912.

Minutes of previous meeting were read and approved.

The Secretary presented a communication from the Anti-Tuberculosis Association, asking the society to appoint a committee to represent it on a joint committe for a conference looking toward the formulation and enactment of a code of additional sanitary laws and regulations, as may be required for the protection of our growing population. Moved by Dr. Harris that this communication be received and committee appointed by the President in accordance therewith. Seconded and duly carried. The President apointed on this committee, Drs. Dunning S. Wilson and B. F. Zimmerman.

The Secretary presented an invitation from the Jefferson County Graduate Nurses Club to attend the opening of their Club House on Tuesday, November 26th. Upon motion, duly seconded the invitation was accepted and the secretary was authorized and instructed to provide a floral tribute from the society for this occasion.

There being no further business before the society, the scientific program was proceeded with as follows:

By permission, **I. Lederman** reported a case of Meningitis Following Mastoiditis with Thrombosis of the Lateral Sinus. Discussed by W. C. Dugan.

By permission, **W. C. Dugan** presented a case of some form of Involvement of the Scapula, Sternum(Clavicle and Tibia in a man sixty years of age, and asked for diagnosis. Discussed by Virgil E. Simpson and John W. Price.

CLINICAL CASES AND SPECIMENS.

Pulmonary Aneurysm (Presentation of Patient) by **F. C. Askenstedt.**

Aneurysm of Dorsalis Pedis (Report of Case), by **B. F. Zimmerman.**

Discussed by W. C. Dugan, F. T. Fort, A. W. Nickell, E. T. Bruce, and in closing by Dr. Askenstedt.

ESSAY.

When Is Operative Treatment Indicated in Chronic Dyspepsia? by **Wm. H. Wathen.** Discussed by F. T. Fort, John W. Price, W. C. Dugan, J. M. Morris, John S. Coon, John R. Wathen, J. T. Dunn, F. C. Askenstedt, and in closing by Dr. Wathen.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 190th Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, November 25th, 1912.

Minutes of the previous meetings were read by C. H. Harris, Secretary pro tem and approved.

Final report of the Committee on Finance for the entertainment of the State Medical Society was made by E. L. Henderson, Chairman, showing a balance, with all bills paid, of $299.25. Moved by Dr. Boggess that a vote of thanks be extended to the Finance Committee for their splendid work. Seconded and carried.

The matter of the disposition of the balance was then discussed. It was moved by Dr. Simpson that sufficient amount be appropriated for the purchase of a stereopticon, for the general use of the society. Moved by F. T. Fort as an amendment to Dr. Simpson's motion, that the amount remaining after the purchase of the said lamp be paid to Mr. Aaron Kohn, to reimburse for services rendered in connection with the recent prosecution of quacks and charlatans in this city. Motion, as amended, seconded by W. C. Dugan, who proposed a further amendment that the motion to Attorney Kohn be considered as an expression of the hearty appreciation of the Jefferson County Medical Society for the services rendered by Mr. Kohn. Carried.

There being no further business before the society, the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

Brill's Disease. Report of Case, by **L. T. Durrett.** Discussed by W. H. Coleman, W. C. Dugan, and in closing by Dr. Durrett.

I. Vesico-Vaginal Fistula; II. Multiple Fibroid—Specimen, by **F. T. Fort.** Discussed by W. C. Dugan, Edward Speidel, W. B. Doherty, Andrew Sargeant, and in closing by W. W. Fort.

ESSAY.

Biliary Drainage, by **C. B. Spalding.** Discussed by Irvin Abell, W. H. Wathen, Ap Morgan Vance, John R. Wathen, John W. Price, Guy P. Grigsby, W. C. Dugan, J. H. Heim, Edward Speidel, and in closing by Dr. Spalding.

Adjournment.

C. H. HARRIS, Secretary.

Jefferson—The 191st Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, December 2nd, 1912.

Minutes of previous meeting were read and approved.

The President brought up the question of the disposition of the surplus from funds collected for the entertainment of the State Society and ruled that an error had been committed by the society in disposing of this money at a previous meeting, without consent of the subscribers to this fund, and asked for suggestions as to the method of obtaining such consent. Moved by Dr. Frank that Dr. E. L. Henderson, Chairman of the Finance Committee, communicate with the subscribers and secure their vote on two propositions:

First—Whether 1-6 the pro rata share of the surplus should be returned to the subscribers or,

Second—Whether the entire amount should be assigned to the Society for disposal as it sees fit.

Discussed by Drs. Coomes and Wathen. Seconded and duly carried.

There being no further business before the society, the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

I. Tuberculous Kidney; II. Carcinoma of Ascending Colon, (Specimens), by **Irvin Abell.** Discussed by Jno. R. Wathen, Guy P. Grigsby, W. H. Wathen, W. C. Dugan, and in closing by Dr. Abell.

I. Uterine Myomata ,(18 pounds); II. 1150 Gall Stones (Specimens), by **Jno. R. Wathen.** Discussed by Irvin Abell, C. B. Spalding, E. F. Horine, W. C. Dugan, W. H. Wathen, and Albro L. Parsons.

By permission, **J. K. Freeman** reported a case in which pregnancy occurred after removal of ovary and tube on one side and ligation of the other tube. Discussed by Simrall Anderson.

ESSAY.

Some Points in Diagnosis and Removal of Malignant Conditons in the Breast. Illustrated with Lantern Slides, by **A. D. Willmoth.** Discussed by Jno. R. Wathen, Hugh N. Leavell, E. S. Allen, J. K. Freeman, Jno. S. Coon, W. C. Dugan, H. M. Rubel, and in closing by Dr. Willmoth.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 192nd Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, December 9th, 1912.

Minutes of the previous meeting were read and approved.

UNFINISHED BUSINESS.

E. L. Henderson, Chairman of the Finance Committee, reported that in accordance with resolutions adopted at previous meetings, he had sent a letter to all the subscribers to the Fund for the Entertainment of the State Society, asking their pleasure in regard to the disposition of the surplus, and that he had received 78 answers, only 3 of which indicated that the donors desired their pro rata returnes to them; while one or two others donated to the society with certain stipulations. The majority, however, donating the amount to the society, to do with as it deemed best. The President ruled that donors who had failed to reply to the letter would be considered as having donated their pro rata to the society.

Moved by Jno. J. Moren that $250 of the surplus be paid to Mr. Aaron Kohn, attorney, as payment for services rendered in the late prosecution of certain quacks in this city. Seconded by William H. Wathen.

Moved by Virgil E. Simpson, as a substitute for Dr. Moren's motion that a sum sufficient to purchase a lantern be deducted from the surplus and that the remainder be set aside as a Sinking Fund for the general use of the society. Discussed by Drs. Moren, Henderson, Morton and Simpson, who amended his motion by withdrawing that part of his motion providing for the purchase of the lantern. Motion as amended, was seconded and duly carried.

There being no further business before the society, the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

Separation of Symphysis Pubis at Delivery. (Report of Case), by **Henry Enos Tuley.** Discussed by A. W. Nickell, Edward Speidel, and in closing by Dr. Tuley.

Louis Frank, being absent, case to have been reported by him was passed.

ESSAY.

Acute Abscess of the Middle Ear in Children; Its Etiology, Symptoms and Treatment, by **W. C. White.** Discussed by Adolph O. Pfingst, H. E. Tuley, S. E. Woody, C. T. Wolfe, N. D. Abell, Virgil E. Simpson, Edward Speidel, J. R. Peabody, and in closing by W. C. White.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 193rd Stated Meeting of the Jefferson County Medical Society was called to order by the President, Edward Speidel, on Monday evening, December 16th, 1912.

Minutes of previous meeting were read and approved.

Dr. Harris called the attention of the society to the fact that the new lights in the society's meeting room were installed by the Engineers & Architects Club, without cost to the society, and upon motion duly seconded and carried, a vote of thanks was extended to this club and the Secretary instructed to notify them accordingly.

There being no further business before the society, the scientific program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

Vaccine and Postoperative Pneumonia (Report of Case), by **E. S. Allen.** Discussed by J. Hunter Peak, J. Rowan Morrison, and in closing by Dr. Allen.

Foreign Bodies Found in Appendices (Report of Case), by **Jno. W. Price, Jr.** Discussed by Dr. Y. Keith, J. G. Sherrill, David C. Morton, Carl Weidner, Lee Kahn, A. R. Bizot, J. Hunter Peak, and in closing by Dr. Price.

ESSAY.

A Study of Two Thousand Cases of Tuberculosis, by **Dunning S. Wilson.** Discussed by Carl Weidner, Sr., Walker B. Gossett, Curran Pope, W. F. Boggess, W. A. Jenkins, F. C. Askenstedt, J. Rowan Morrison, David C. Morton, and in closing by Dr. Wilson.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Nelson—The Nelson County Medical Society met in the office of Hugh D. Rodman, at 1:30 P. M., on December 4, 1912, and was called to order by President Gore. There were present Drs. B. E. Gore, S. A. Cox, H. E. McKay and Hugh D. Rodman, of Bardstown; and Drs. Guy P. Grigsby, of Louisville, and S. B. Crume, of Bloomfield. The minutes of the last meeting were read and approved. The Delegate to the State Medical Society made a report of the principal business which was transacted by the House of Delegates at the State meeting, giving his own votes on important questions; all of which was approved.

ESSAYS.

Guy P. Grigsby, of Louisville, read an excellent paper on "The Surgical Aspect of Appendicitis," which was freely discussed

DISCUSSION.

S. A. Cox: This is a good paper in a surgical way. I do not know that I can add anything to what the essayist has said.

S. B. Crume: We have heard a good paper, but the essayist is not positive enough in his advice as to the use of cathartics in the onset of this disease, or at least when the general practitioner first sees a case. I do not believe that cathartics should be used. I saw a case where I thought they did great harm, and probably caused the rupture of the appendix."

H. D. Rodman: I believe that if we see a case in its acute inflammatory stage that cathartics do good and should be used. I prefer the salines aided by a saline enema. A loaded gut is more dangerous and a greater source of harm than a slight peristalsis which might be caused by a mild cathartic; but all cases of appendicitis should be referred to the surgeon as soon as possible.

B. E. Gore: I want to ask the essayist if he believes an anodyne, as morphine or heroin, will do harm, or is contraindicated after you have made a positive diagnosis? I use morphine to relieve pain in such cases without harm.

Guy P. Grigsby, Closing: I want to go for Dr. Rodman and Dr. Gore both; cathartics should not be used; the increased peristalsis may rupture the diseased appendix and release a lot of pus into the free cavity of the abdomen and do great harm. A mild enema is all of the purgative necessary.

Now, as to the use of anodynes they should not be used; they lock up the secretions and mask the symptoms so that we do not know anything of the progress of the case. We don't know where we stand; even the ice bag is a local anaesthetic and should not be used. Dr. Gore, what would you do? I would do nothing.

J. R. Boone, one of our local dentists, read a most excellent paper on "Nitrous Oxide and Oxygen in Dental Surgery."

This paper was freely discussed by some of the members whose names I failed to get down. Many questions were fired at the young dentist, all of which he answered promptly, fluently and intelligently.

As this paper was out of the regular order of medical society papers and was of such great interest, a vote of thanks was given Dr. Boone for his efforts in our interest.

Both of these papers accompany this report, and I hope that they will find space in "Our" excellent State JOURNAL.

The election of officers resulted as follows:

S. B. Crume, Bloomfield, President; H. E. McKay, Vice President; Hugh D. Rodman, Secretary and Treasurer; S. A. Cox, Censor for three years; Hugh D. Rodman, Delegate to State Meeting.

Adjourned to meet the first Wednesday in March, 1913.

HUGH. D. RODMAN, Secretary.

Nelson—The Nelson County Medical Society met in the office of B. E. Gore on September 4th. There were present B. E. Gore, R. H. Greenwell, H. E. McKay, S. A. Cox, and Hugh D. Rodman, Bardstown; and J. I. Greenwell, New Haven.

Hugh D. Rodman read a paper on the "Comparative Treatment; With Results of Diphtheria Forty Years Ago and Now." He detailed the barberous treatment used in the Seventies with the fatal results and the high percent. of deaths, and compared it with the more rational, humane and successful treatment of to-day.

J. I. Greenwell reported a case of diphtheria in his own baby which report is entirely too interesting and the case too rare to be kept from the profession, so I herewith hand you the original report which I hope will find its way to the readers of our excellent Journal.

In discussing this report Dr. Gore said: "This patient would have died if it had not been tubed. I never saw a case of this kind get well without the tube, no amount of antitoxin will save such patients. These are the cases in which the tube is a necessity, if we want to save our patient and to be sure of success, we must tube early in the attack."

B. E. Gore reported a case of "Bright's Disease," which was diagnosed by an optical examination six months before the kidneys showed any disease. But when the kidneys did show disease the patient went rapidly to his grave.

Adjourned to meet December 4th, 1912.

HUGH D. RODMAN, Secretary.

Owen—At a meeting of the Owen County Medical Society held on December 5th, 1912, the following officers were elected for 1913:

President, J. C. B. Foster, Montery; Vice President, J. W. Botts, Owenton; Secretary, J. H. Chrisman, Owenton; Treasurer, W. B. Salin, R. F. D. No. 3, Owenton; Censors, W. E. Foster, Owenton, two years, George Purdy, New Liberty, three years.

Trusting we may have, by your help, another successful years' work, I am,

GEORGE PURDY, Secretary.

Pendleton—The Pendleton County Medical Society met at Butler, on Wednesday, December 11, 1912, with the following members present: A. L. Beckett, J. F. Daugherty, W. A. McKenney, John E. Wilson, W. H. Yelton, E. A. Cram, W. J. Thomasson, of Newport, visiting.

The following officers were elected for next year:

President, O. W. Brown; Vice President, J. Ed Wilson; Secretary-Treasurer, W. A. McKenney; Delegate, J. F. Daugherty.

The following members paid their dues: P. N. Blackerby, W. H. Yelton, S. M. Hopkins, A. L. Beckett, J. F. Daugherty, John E. Wilson, E. A. Cram, W. A. McKenney.

W. J. Thomasson gave us a very interesting talk on the "Ear," which wa senjoyed by all present.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the Houston House, in Butler, Ky., on Wednesday, October 9th, 1912, with the following members present: A. L. Beckett, P. W. Blackerby, O. W. Brown, J. A. Caldwell, N. B. Chipman, J. F. Daugherty, N. F. Ellis, T. C. Nichols, J. Ed Wilson, W. H. Yelton; visitors Dr. McKee, Dr. J. H. Caldwell, Newport; Dr. Poe. The meeting was called to order by President Blackerby. After roll call and a reading of the minutes of the previous meeting, we proceeded to the business of the day.

After a very good report of clinical cases we had three papers.

N. B. Chipman read a paper on "Angina Pectoris," which was discussed by Nichols, Brown, Ed Wilson, Daugherty, J. A. and J. H. Caldwell, and W. H. Yelton.

P. N. Blackerby's subject was "General Chron-Paresis." It was discussed by J. F. Daugherty, J. H. Caldwell, W. H. Yelton, Ed Wilson, O. W. Brown.

J. Ed Wilson read a paper on "The Pupil in Health and Disease." The paper was discussed by Drs. Poe, Chipman, Daugherty, Caldwell, J. H., closed by Ed Wilson.

This closed the papers and discussions.

On motion by Dr. Yelton that a Committee be appointed to draft suitable resolutions on the death of the venerable Dr. J. H. Barbour, the following were appointed: Ed Wilson, W. H. Yelton, T. C. Nichols.

We had no meeting in September on account of the society adjourning out of respect to J. H. Barbour, whose funeral occurred on that day.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson in Butler, on Wednesday, November 13th, 1912, with the following members present: Beckett, Blackerby, Brown, Daugherty, Hopkins, Kendall, McKenney, John E. Wilson, W. H. Yelton, E. A. Cram.

After a roll call and reading of the minutes of the previous meeting, we proceeded to the business of the day. We had a very good report of clinical cases, and also some good papers on live subjects.

The Board of Censors reporting favorably, Dr. E. A. Cram, was unanimously elected to membership.

W. A. McKENNEY, Secretary.

Simpson—At the regular meeting of the Simpson County Medical Society, held in Franklin, Tuesday, December 3, 1912, the following officers were elected for the year 1913:

J. R. Claypool, President; W. H. Williams, Vice President; F. C. Bandy, Secretary and Treasurer; C. L. Venable, Censor for three years; W. H. Williams, Delegate.

A number of interesting cases were reported and ably discussed by those present. The meeting being very instructive and interesting throughout.

F. C. BANDY, Secretary.

Scott—The annual meeting of the Scott County Medical Society was held at Georgetown, December 18, 1912, and the following members paid dues: J. E. Pack, Crow, Porter, Crutchfield, Knox, Johnson, Coffman, Downs, Herring.

Officers were elected as follows: J. E. Pack, President; P. H. Crutchfield, Vice Preisdent; E. C. Barlow, Secretary-Treasurer; R. W. Porter, Delegate; W. S. Allphine, Alternate; W. H. Coffman, Censor.

The society will meet regularly every fourth Thursday.

E. C. BARLOW, Secretary.

Washington—At a meeting of the Washington County Medical Society, held in Springfield on December 11th, 1912, the following officers were elected for the year 1913:

W. S. Gabhart, of Mackville, President; W. T. Barnett, of Springfield, Vice President; J. H. Hopper was re-elected Secretary and Treasurer. A. Y. Hatchett, of Texas, was apointed Censor for three years; W. S. Gabhart was elected Delegate, with W. T. Barnett as Alternate.

J. H. HOPPER, Secretary.

Warren—The annual election of officers of the Warren County Medical Society took place December 11, 1912, resulting as follows: J. H. Souther, President; E. N. Hall, First Vice President; E. J. Keen, Second Vice President; Lillian H. South, Secretary and Treasurer; T. W. Stone, Censor; J. W. Lewis and B. S. Rutherford Delegates to the State Meeting.

L. H. SOUTH, Secretary.

Whitley—The Whitley County Medical Society met in Wiliamsburg on December 17th, and elected the following officers:

President, L. O. Smith, Williamsburg; Vice President, Garfield Howard, Gatliff,; Secretary, C. A. Moss, Williamsburg; Treasurer, J. D. Adkins, Wiliamsburg; Delegate, L. B. Croley, Williamsburg; Censors, S. E. Crouch, Pleasant View, L. B. Croley, Williamsburg, B. J. Edwards, Corbin.

There being no further business the meeting adjourned.

C. A. MOSS, Secretary.

Wayne—The Wayne County Medical Society met October 2, 1912, at 1 P. M., in the office of J. F. Young, with the following members present: O. M. Carter, A. S. Cook, M. L. Bryant, T. H. Gamblin, J. F. Young and C. B. Rankin.

M. L. Bryant read a short paper on "Nervous Indigestion," which was discussed by the members present.

T. H. Gamblin was elected delegate to attend the State Medical Society to be held in Louisville. O. M. Carter was elected alternate.

C. B. RANKIN, Secretary.

Tetanus.—Torres concludes from twenty years of experience with tetanus at the Muniz Hospital that intravenous injections of 120 c.c. of tetanus antitoxin (Paris) should be the rule in tetanus. He calls this the saturation dose; it should be repeated twice in the twenty-four hours and be followed by a third injection of 100 c.c. before the close of the second day, and this last dose repeated on the following days if there are still symptoms. This technic has been applied in 110 cases of severe, acute tetanus in the last eight years, and the mortality was only 32.7 per cent. Saturation doses every six hours until improvement sets in should be the rule, he asserts.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 4 FEBRUARY 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

TREATMENT OF TIGHT AND COMPLICATED STRICTURES OF THE URETHRA.

By HARRY C. WEBER, Louisville.

Stricture of the urethra is one of the most important of the surgical disorders of the genito-urinary organs. It is the most common of those diseases that you are called upon to deal with, since at one or other period of life the vast majority of the male population suffer from that condition which most frequently gives rise to it. If neglected or improperly treated, it is most far-reaching in its injurious consequences through the morbid pathological changes thereby produced.

Organic stricture is a permanent diminution in the caliber of the urethra due to the development of organized lymph or scar tissue in its walls.

Having verified the existence of organic stricture by instrumental exploration of the urethra, the question is treatment. Our aim must be to restore the canal to its normal capacity and maintain it in that condition.

Many methods of treatment have from time to time been introduced—I will only deal with two: Dilatation and internal urethrotomy.

Dilatation is the simplest and best mode of treatment for the great majority of strictures. It should almost invariably be attempted at first and only abandoned in favor of operative methods when owing to certain difficulties or complications that may arise, it may be found impracticable.

Another advantage is it in no way militates against the employment of operative treatment should such subsequently be found necessary, but on the contrary partial dilatation facilitates operation for some varieties.

In the treatment of stricture where you can pass a fine tapering olivary bougie in the first instance with comparative ease, the treatment is easy, but where the case is one of extreme narrowness or is complicated by the existence of false passages or from other causes we may fail to pass one of these bougies, we then use the fine filiform bougies of various shapes. Some are made of rubber, some of silk and others of catgut.

In the endeavor to pass these filiform bougies through a tight stricture, a good deal of manipulation and manouvering will frequently be necessary and your patience will often be put severely to the test.

Use a straight bougie in the first instance, introducing it as far as the stricture, the face of which is then searched by alternately advancing and withdrawing the tip of the instrument, endeavoring to engage it in the opening of the stricture and then by gentle pressure and perhaps rotation to pass it through the narrow passage.

Should you fail in your efforts to do this, withdraw the bougie and substitute one with the end bent at an obtuse angle to the stem. To obtain the bend put the bougie into warm water, give it the necessary shape, then plunge it into cold water. With this bent bougie search for the opening all around the outer rim of the obstruction, for the orifice of the stricture instead of being in the center may lie at the outer margin.

These filiform bougies are also made bayonet-shape and some have tendril or corkscrew ends and are sometimes used with great success in passing through very tight strictures.

Having succeeded in passing a fine instrument of any kind through a tight stricture, it should not be removed but tied in and allowed to remain for several days.

If a small instrument that just passes through a stricture, exerting no pressure thereon, be tied in for several days the stricture will have enlarged to such an extent that the instrument lies quite loosely therein, and one several sizes larger can be introduced without danger.

While the instrument lies in the urethra, the patient is instructed to urinate, at the same time hold the instrument in its place. The urine passing around the instrument aids in dilatation.

In many cases of so-called impassable stricture, if an instrument be introduced as far as the face of the stricture and held against or in its orifice for some hours, the morbid tissues will be modified to such an extent that a filiform bougie will pass into the bladder.

How the softening and absorption of the stricture is brought about it is impossible to say definitely, but it is presumed they are due to alteration in the nutrition of the tissues caused by the increased vascular supply introduced by the contact of the instrument.

Force should not be used in passing an instrument for the purpose of dilatation. If a stricture is not dilatable without the employment of force in introducing instruments, it is not a case suitable for this method but for a cutting operation.

Passing of an instrument through a tight stricture will always be faciliated by injecting warm oil in the urethra. Some of the oil passes back through the narrow passage lubricating its sides and dilating it slightly, thus rendering the introduction of the bougie easier.

One of the most serious difficulties that we may have to contend with when dealing with a stricture is the existence of what is called a "false passage." A false passage results from a wound of the urethra produced during unskillful attempts to introduce an instrument whether by a surgeon or by the patient himself. As a rule the opening into the false passage is situated on the floor of the urethra and is most commonly found in the bulbus portion.

This is due to the fact that the canal is here naturally dilated and somewhat pouched downwards, before it rather suddenly contracts to form the membranous portion, so that a natural barrier is thus formed against which the point of a stiff instrument is liable to impinge, and if unskillfully guided onwards or force be used to be driven through the tissue out of the canal. Imagining that the point of the instrument is still in the urethra, the operator may push it onwards so as to again enter the canal behind the stricture; or it may travel backwards between the prostate and the rectum and puncture the latter or even the bladder.

How are we to deal with a complication of this kind? Use a metal catheter and avoid the aspect of the ureter on which the opening into the false passage exists; that is to say we must as a rule guide the point of the instrument along the roof of the urethra. When the urine flows through the catheter you are sure it has entered the bladder.

When we have succeeded in manipulating a small catheter through what we conceive to be the stricture, the forefinger of the left hand should be inserted into the rectum to ascertain if the instrument is really in the urethra, in which case you will feel the thickness of the prostate intervening; whereas in a false passage the catheter will be felt more distinctly, only the thin coats of the bowel lying between it and the finger, and it will probably be withdrawn two or three inches and again passed on—endeavoring by successive attempts to enter the stricture.

When a metal instrument is in the bladder you are able to rotate the point freely from side to side.

Having succeeded in introducing a catheter it should be tied in and allowed to remain until the stricture is dilated to such a degree that an instrument of considerable size can be passed with facility.

Rubber catheters armed with stylets may be used instead of the metal instruments, for they are superior to the metal instrument for tying in the bladder, but cannot be guided so successfully. The urethroscope can be used with great success in these cases of tight stricture complicated by a false passage. Use the largest tube the urethra will admit and manipulate the tube so as to bring the true orifice of the stricture into view. A filiform is then passed and held there whilst the tube is withdrawn.

Your first interview with a patient will usually be at your office, and after diagnosing the existence of a stricture you will endeavor to pass an instrument of some kind through it. You may find it so tight or otherwise complicated that after several attempts you fail to introduce even a filiform as far as the bladder. You will be disappointed for there is no doubt that the successful introduction of an instrument without pain through a difficult stricture at once commands the confidence of the patient. Do not prolong the operation but send the patient to bed, administer a purgative, place him on light diet, give him an alkaline mixture combined with hyoscyamus.

After a day or two repeat the operation and in all probability you will be successful in introducing an instrument. A loaded bowel and muscular tension due to exercise produce congestion and spasm at the seat of the stricture which passes off under the above treatment.

Another successful method where it is desirable to secure considerable dilatation at once and if the stricture is one suitable for dilatation, a filiform bougie armed with a screw on its proximal end is first passed through the stricture; on to this is screwed a small steel dilator, the soft conductor is then pushed on into the bladder where it curls up followed through the stricture by the metal dilator. The dilator is then withdrawn and unscrewed, but the guide is left in. The next large-size metal dilator is then attached and passed in as before; and so on until we have dilated the stricture to No. 18 or No. 20 F. when the guide is withdrawn and the operation repeated every five or six days until the urethra is normal. As a rule it is best to use a 4% solution of cocaine in the urethra, but it is not necessary in all cases.

Finally when all of these various manipulations fail in our effort to pass an instrument through a tight stricture, we may find that if the patient be anesthetized we may succeed with ease, when the instrument should be tied in and the treatment by dilatation proceeded with unless the stricture is not suitable for dilatation, then we will do an internal urethrotomy with the Maissoneuve urethrotome. A filiform flexible bougie provided with a female screw at its base is first introduced through the stricture into the bladder. The steel grooved staff is screwed onto this and is passed on through the stricture, preceded by the filiform bougie which curls up into the bladder. The conductor is held steady and the three cornered blade, with its apex ground flat to prevent cutting too deep, is now inserted in the groove of the metal conductor and pushed along the urethra through all contracted points until the prostate is reached. Care should be taken that the prostate is not incised or severe bleeding may ensue. The instrument is then withdrawn followed by the filiform guide.

Introduce steel dilators to ascertain if the contractions have been thoroughly divided. As a rule a local anesthetic is all that is necessary, but some cases require general anesthesia. Prepare the patient carefully for the operation. He should be quiet a few days before hand. The kidneys should be working actively and the urine free from albumen. The bowels well opened every day and 7 1-2 grs. of urotropine given three times a day. To ward off urethral fever the patient should be kept thoroughly warm during the operation, and on transferring him to bed a hot water-bottle should be placed at his feet, and 5 grs. of quinine with a glass of hot lemon water should be given three times a day.

In spite of all precautions some cases develop the infection within the first three days after the operation; usually after the first act of micturition. The cold, hot and sweating stages of malarial fever are exactly reproduced. These attacks thoroughly distressing to the patient and alarming to the inexperienced surgeon are practically void of danger provided the kidneys are in good condition. Suppression of urine is a very serious complication and it always indicates the previous existence of diseased kidneys.

The treatment of urethral fever consists of hot drinks and hot water bottles in the cold stage, diaphoretics and diuretics during the hot stage and avoidance of chill during the sweating stage.

The patient should remain in bed for six or eight days and for the first three days should not get up to go to stool for fear of inducing hemorrhage. The bleeding is of no consequence in the majority of cases. Should a case have a tendency to hemorrhage, introduce a rubber catheter down to the prostate and apply a hard pad to the perineum, for it is in the bulbus portion that the hemorrhage of a serious nature takes place.

Do not be in a hurry to introduce a sound or dilator. Wait for the wound to heal which will be about two weeks. Use No. 20 to No. 26 F. sounds and introduce them consecutively without the employment of force. This should be done every two weeks at first, and then at longer intervals lest the stricture should show a tendency to recontract.

The secret of success in the treatment of strictures is the use of dilating instruments without force, or a thorough division of the ring of fibrous tissue which constitutes the chief element in stricture.

DISCUSSION.

J. T. Windell: I have learned quite a number of things in several years' treatment of strictures, one of the most important of which, I think, is asepsis, which has done away with the old bougies—urinary fever and false passages. If a man can pass any urine at all, we can irrigate his urethra and bladder, which I do daily in all these cases.

Another thing I have learned is gentleness. I formerly used a great deal of cocaine in treating these cases, but I do not think I have used a bit of it in the past five years. I would rather have the patient's urethra in a sensitive condition to serve as a guide as to the effects of the instrumentation.

Speaking of false passages, some two years ago. in attempting to dilate a strictured urethra with what is called a small whip bougie, the point of it entered the orifice of the right ejaculatory duct and passed through it into the seminal vesicles. The patient immediately complained of intense pain and I recognized what had occurred by the hemorrhage which followed, and which contained spermatozoa. This is the nearest approach to a false passage that I have ever had.

I have certainly enjoyed the doctor's paper, which brought out many essential points in the treatment of these cases.

J. Garland Sherrill: The essayist has given us a very valuable contribution which shows that he has gone into the subject carefully and thoroughly. I think it is a very important subject because these patients usually come first to the surgeon or the general practitioner, rather than the specialist, and in many instances, they must have immediate relief for a distended bladder, which has occured probably as a result of spasm produced by the stricture.

In my early medical experience I learned a lesson from the late Dr. Holloway along the line mentioned by Dr. Windell; namely, that the utmost gentleness and patience must be observed in handling these cases. Many times I have seen Dr. Holloway, in his clinics at the College and at the City Hospital, work for more than an hour in an attempt to pass a filiform bougie through a strictured urethra, and he did it with the utmost gentleness and care. A false passage will rarely occur unless considerable force is used, but often the trouble is that the patient has a false passage when we see the case, and these are the most difficult cases with which we have to deal.

The point brought out by Dr. Windell in regard to allowing the urethra to remain sensitive is a very good one. I believe it is necessary to use cocaine in very sensitive patients, but in many cases we can get through the stricture without the use of an anesthetic.

The endoscope cannot always be employed, although it may be a very valuable aid in passing the stricture.

There is one point that the essayist failed to mention and which I think is very valuable in attempting to pass a stricture of this kind. If you will introduce a filiform bougie as far as possible without force and leave it there, and then run another one down beside it, and repeat this until you have introduced from five to seven bougies; then work them up and down a few times and one will finally slip into the opening, and when you have accomplished this the case is practically under control.

It is very important to be thoroughly aseptic. When I was attending medical college we knew very little about asepsis of the urethra. Now we are very careful to clean up externally, wash out internally (in the urethra itself) with sterile saline solution, and then begin our manipulations. These methods, in addition to the use of sterile instruments, have made urethral fever a thing of the past. The nervous condition of the patient sometimes produces an elevation of temperature, but this is not the same thing that we formerly had in these cases. Gentleness, patience, good lubrication and asepsis will enable us to pass the stricture and obtain good results in the majority of these cases.

Milton Board: If I was doing genito-urinary work, I would have in my office an apparatus for giving these cases of stricture the galvanic current. The technic is very simple and the results are often surprising and always rapid. To the negative pole of the galvanic battery is attached a rubber electrode, just a little larger than the smallest instrument that can be introduced into the urethra, and the patient given five milliamperes for five minutes every five days. You will be surprised at the rapidity with which these strictures may be dilated by this means. Of course, the treatment is only applicable after the stricture has been passed with smaller instruments. In many instances it will save weeks in the cure of the stricture. In our work at the institution we have had patients who were unable to get to a surgeon, in whom we have had to employ this method, and the results have been very gratifying. I had an opportunity of seeing this form of treatment used in Chicago a few years ago with very surprising results in a number of cases.

C. B. Spalding: I have enjoyed the doctor's paper very much indeed. He made one statement in regard to false passages with which I wish to differ somewhat. I understood him to say that the most frequent site of false passages was through the floor of the bulbous urethra. Anatomically (if I may be permitted to illustrate my remarks on the blackboard), we know that the urethra rises out of the bulb anteriorly and passes through what is called the uro-genital diaphragm. Furthermore, we know that where the urethra rises out of the bulb, it is most thoroughly protected posteriorly by the bulb, and above is a space, a quarter of an inch or so, just before reaching the uro-genital diaphragm, which is the anatomical weak place in the urethra, and this, according to the majority of text-books, is the most frequent site of false passages, although if a great deal of force is used, of course a false passage may be made anywhere in this region.

Another point in regard to so-called urethral fever. We know that the first principle of all good surgery is good drainage. If, in addition to the stricture, your patient has an infected bladder, and if you cut the stricture and allow the infected urine to pass over it, you cannot expect anything else but fever. The way to avoid this is to do an external urethrotomy.

There are three usual sites for strictures of the urethra; (1) the membranous urethra; (2) the middle portion of the penile urethra, and (3) near the end of the urethra. It is the stricture in the membranous urethra, back of the so-called uro-genital diaphragm, that gives us the most trouble. If we have a stricture there and depend upon the swollen urethra for drainage, we are apt to have extravasation of urine back of the cut-off muscle. Therefore, the only way to secure good drainage in such cases, in my opinion, is by making an incision through the membranous urethra after lifting up the bulb, doing an external urethrotomy, and there will be no septic fever afterward.

O. H. Kelsall: I have certainly enjoyed the doctor's paper. I have treated quite a few of these cases and, like Dr. Windell, I believe in extreme gentleness in our manipulations. I believe in having our anesthetic in our finger-tips so to speak.

The essayist did not bring out the point mentioned by Dr. Spalding, that we have strictures at several different sites in the urethra. It is nearly always necessary to cut strictures in the penile portion of the urethra unless they are of very recent origin. Strictures located at the bulb or in the bulbo-membranous region are most amenable to treatment by gradual dilatation. I believe it is a very good rule to treat all strictures of the urethra by gradual dilatation if possible.

Dr. Spalding brought out the point I had intended to make; that where we have a cystitis and infected urine, it is necessary to do an external urethrotomy to secure proper drainage. We have strictures and strictures—some complicated by neglect, and by fistulae due to rupture of the canal back of the stricture and in these cases, to secure the best results, it is necessary to do an external urethrotomy.

During the past summer I had a case in a young colored man. At first I was not sure whether he had a syphilitic gumma of the urethra, or whether, in addition to this, there was a rupture of the urethra back of the stricture. After repeated and careful efforts I was unable to pass a filiform bougie through the stricture. The patient was able to pass some urine on great effort, the urine splattering in every direction. In cases of this kind what is known as the Cock operation is recommended, but this is a very difficult procedure. I did a retrograde catheterization on this man; that is, I did a suprapubic cystotomy and then passed a large sound through the bladder into the urethra, and then made an incision upon the sound in the perineum, thus securing drainage which was maintained for ten days. The condition in the anterior urethra improved until I was able to pass a filiform bougie and I then did an internal urethrotomy with the maissoneuve, followed by the Otis urethrotome, thereby restoring the canal to its normal size.

H. C. Weber, (Closing): I think the good results claimed for electricity in these cases come from the introduction of the instrument with which it is applied. When you put an instrument into the urethra, I do not care how small it is—it has a tendency to dilate it, and I believe that with the introduction of the instrument into the urethra, even without applying the electricity, the results would be practically the same.

I wish to thank the gentlemen for their discussion. I am glad to have had the opportunity of reading the first paper in 1913, as I am not superstitious.

SCLERAL DECOMPRESSION IN THE TREATMENT OF INTRA-OCULAR TENSION.

By J. Morrison Ray, Louisville.

The healthy human eye presents to the touch a certain elastic resistance which we have come to designate as the ocular tension. By experience and practice we find that any variation from this characteristic condition whether in the direction of hardness or softness is an unhealthy eye. The condition where the resistance to touch is increased, in other words, where the pressure indicates a hard eye-ball, we have come to know as glaucoma. While there are other symptoms that always sooner or later accompany this disease, such as contraction of the visual field, and excavation of the optic disc, the one symptom is hardness of the eye-ball.

In a study of the etiology and pathology of this disease volumes have been written and while the pathologic end results are familiar to most ophthalmic surgeons, the etiological factor remains unknown. The normal ocular tension must be maintained by secretion and excretion of the intra-ocular fluids. Increased tension must be due either to increased secretion, or diminished excretion of these fluids. The experimental physiologist has shown that the intra-ocular fluids come from the blood stream. The vascular membrane of the eye, the choroid, or so-called uveal tract being the principal and probably sole source of secretion. Excretion of both the vitreous and aqueous is largely if not entirely through the angle of the anterior chamber by filtering through the pectinate ligament into Schlemm's canal and the veins connecting with it.

Pathologic examination of enucleated eyes, the seat of glaucomatous tension show in practically every case the angle of excretion obstructed. This was first pointed out by Kneis and Weber in 1876. A great many highly interesting observations and investigations have been made in an effort to arrive at the cause for the obstruction of the filtration angle, but they are not in order in this communication.

Clinically glaucoma can be divided into primary and secondary. Primary glaucoma may be acute congestive or so-called inflammatory glaucoma, or chronic or so-called glaucoma simplex.

Secondary glaucoma may result from adhesions of the iris to the cornea, anterior synechia, dislocation of the lens into the anterior chamber, or lateral displacement of the lens pressing against the base of the iris, injuries to the lens followed by swelling, and increase in the bulk of the lens, thus pressing the iris forward. It has been known to occur after cataract operations, when particles of lens capsule become adherent to the corneal section and thus pushing forward the iris and obstructing the filtration angle. Intra-ocular tumors, especially sarcoma of the choroid sooner or later develop eye tension, some cases of retinal detachment incite tension. Frequently it is produced by serous exudates and hemorrhages into the eye. In all the secondary cases the filtration angle is found more or less obstructed either by the iris being pressed forward or an exudate blocks the spaces in the pectinate ligament.

It has been conclusively shown that in all glaucoma processes, primary or secondary, the obstruction at the filtration angle is not a new complication occurring after the tension is established, but that it is in itself the immediate cause of the high tension.

From this abbreviated sketch it is apparent to all that the essential object of treatment in the relief or cure of glaucoma must aim at opening up the angle of filtration or the establishment of some other method of draining away the eye fluids thus retarding or arresting the hardening process.

These efforts resolve themselves into medical treatment and operations. Medical treatment: Early in the study of the glaucoma problem it was found that in certain eyes especially in elderly people an attack of increased tension was brought about by the use of drugs that dilated the pupil, the principal offender being atropia, and that this attack was usually relieved or always greatly lessened by the prompt use of pupil contractors, so-called myotics.

Observations have shown that the glaucoma subject usually suffers from high arterial tension and drugs that tend to lessen this are of value. For the past year or more I have made it a rule to take the blood pressure in all cases of glaucoma and I have not yet found the average varies much from the normal either in acute or chronic glaucoma. I have under observation at the present time a young man under forty years of age with a sub-acute glaucoma dating from the use of a cycloplegic and his blood pressure ranges from 115 to 130.

Sub-conjunctival injections by bringing about an osmosis have been of some value in lessening eye tension. Recently Fisher, now of Cincinnati has claimed that a 4% solution of sodium citrate used sub-conjunctivally lessens the eye tension in a very short time. He claims that glaucoma is essentially an oedema of the eye-ball, due to the presence in the organ of a substance which increases the affinity of the tissue colloids (fibrin) for water. The sodium citrate solution by counteracting this influence drains water from the eye and thus lessens the tension. There is no question but what this treatment lowers the tension but it is painful and the effects evanescent. Massage it is claimed has decided effect in lessening eye tension. I have found its greatest value after operating especially sclerotomy, according to DeWecker and since the sub-conjunctival drain has been brought about its use will prove of still greater benefit.

The operative measures may be divided into those upon the eye-ball proper or intra-bulbar operations and those upon other parts that are concerned in the function or nutrition of the eye-ball, so-called extra bulbar. Under the latter head are classed optico ciliary neurectomy, division of the cervical sympathetic (Jonnesco's operation), and stretching of the nasal nerve. These have all proven inefficient and have been discarded.

The operations upon the eye ball for the relief of glaucoma date from the time of MacKenzie in 1830, who found that by puncturing the eye and allowing the fluids to escape that the eye tension was relieved. This with some attention to detail and technic is the modern posterior sclerotomy, and while it usually gives only temporary relief, is still found to be valuable in certain cases with very high tension, shallow anterior chamber and hazy cornea.

The epoch-making discovery resulting from the introduction by Albrecht von Graefe, in 1855 of the operation of removing a piece of the iris by an incision well back towards its base, marks the modern treatment for this disease. This procedure he found offered a far more lasting effect than simple puncture of the ocular tunics. From that time to the present iridectomy has proven of more value than any other operation in both acute inflammatory and chronic simplex glaucoma. It has been found that in the cases where iridectomy has been done the best effect is obtained where a cystoid scar has formed and a constant leakage from the eye becomes established. This led to the advice that a piece of iris be left between the lips of the wound so as to effectually bring about the establishment of this drain but it was found difficult to do and at times when accomplished, an infection sooner or later would start in the iris that was incarcerated and loss of the eye followed. In the more than half-century which has passed since von Graefe's discovery, we have been striving to explain the mechanism of relief given by iridectomy. It was found that when the wound healed quickly the tension was more apt to return. When I review my personal experience with glaucoma operations I find that while in many the operation has been of benefit, the most lasting good effects were in cases where a small piece of iris was accidentally left in the wound. One of these, a young woman, (and the prognosis is always more grave the younger the patient) with only one eye, has been relieved for eight years, and by the subconjunctival leakage maintains normal tension and a useful eye.

The cyclo-dialysis of Heine was an effort to drain the eye without mutilating the iris. The recent work of Herbert and Lagrange in an effort to bring about a permanent filtration scar without incarceration of the iris in the wound marks the latest advance in the treatment of this most unfortunate disease and the procedure appeals to those of us who have seen eyes slowly lost by recurring increased tension after either iridectomy or sclerotomy.

The principal involved is to bring about a permanent fistula through the sclera at the extreme limit of the anterior chamber, to cover this scleral opening with conjunctiva, and thus with every rise of the tension in the eye a leakage takes place into the sub-conjunctival tissue forming a collection of fluid that appears like a blister, this fluid being rapidly taken up by the veins and lymphatics in the sub-conjunctival cellular tissue. The object in this being very similar to that of the operation upon the cranial case for the purpose of relieving intra-cranial pressure in brain tumors or optic nerve oedema, so-called choked discs.

Herbert suggested that an incision as if for iridectomy be made and a piece of conjunctiva or excised scleral tissue be placed between the lips of the wound so as to prevent permanent union. Lagrange excised a large piece of the sclera after an incision well back bringing the conjunctiva over the opening for a covering and protection. The simplest procedure, however, and the one that while employing less traumatism most efficiently accomplishes the desired end is the use of a small trephine. The perfection of this operation is due to the work of Fergus and Elliott, each working separately and with slightly different technic.

Major Elliott, an English army surgeon in the Indian Medical Service, has operated upon a large number of cases by drilling a hole through the sclera, at the sclera-corneal angle with or without removal of a piece of iris, then covering this opening with a flap of conjunctiva usually held in place by a stitch, allowing a flow of aqueous to take place under the conjunctiva. A large triangular flap of conjunctiva with its base to the cornea is dissected from the sclera, this being carried well onto the cornea so as to expose the cornea and sclera at the limbus, then a small trephine is used, and a disc of sclerotic tissue removed, the anterior chamber thus being entered and an aqueduct for the aqueous established, the conjunctiva is replaced over the scleral opening. An iridectomy may or may not be done depending on whether the iris is inclined to protrude through the trephine opening. The size of the trephine used varies in diameter from one to three m.m. He prefers the two m.m but suggests that experience may show this to be too small.

I have for the past six months been resorting to this operation in all cases of increased tension coming to me for operation. Personally I have operated on six cases and my associate, Dr. Lederman, on two. These were two cases of acute glaucoma with great pain, hazy cornea and very high tension and in both the operation was done under a general anesthetic, it has given relief to pain, reduced the tension to normal and in both cases useful vision is now present.

Two cases of chronic glaucoma have been followed by no permanent rise in tension since the operation.

One case of so-called hydrophthalmos or congenital enlargement of the eye-ball which is always sooner or later a source of tension and unless relieved ends in loss of the eye, (this case is here to-night for exhibition).

One case I saw with Dr. Pfingst of so-called sclero-keratitis with tension, the sclera was so thin that the operation was scarcely applicable yet I understand the tension was lowered.

The operations of Dr. Lederman were in chronic cases and I understand from him that leakage is established and the tension lowered.

There is no question that the only glaucomatous operated eyes that are permanently benefitted are those where some leakage of the eye fluid takes place. Therfore if the removal of a disc of sclera with a trephine will yield a permanent filtering opening we have done all for this disease that surgery can offer. Time only can tell whether these results are to be permanent and my report may be premature yet I think it our duty to try this operation since it is simple, easy of execution, and under proper precautions, without danger.

DISCUSSION.

I. N. Lederman: I think we are all about ready to welcome an operation that will help us in relieving glaucoma. Whether or not the operation Dr. Ray describes will do it, or whether it has any advantages over iridectomy, I do not know. However, I believe it is an operation that is going to stick, although it has not been accepted throughout the world without some argument.

There are some, notably an Englishman, who claim that the results from this operation are no better than the results from iridectomy. However, I do not believe this gentleman has presented an array of cases sufficient to offset those reported by Elliott. When one can report good results from an operation in four thousand cases, we are almost ready to accept it as the procedure to be adopted.

I do not intend to go into the theories of the etiology of glaucoma and the relief obtained by iridectomy, except to say that the generally accepted idea is that iridectomy relieves the tension not only by opening the iris angle but by increasing the excretion through the edges of the iris. It is claimed that this is the reason we do not get relief from iridectomy in so-called glaucoma simplex, or chronic cases, in which iridectomy more frequently fails to give relief than in any other type of glaucoma. In these cases we have atrophy and sclerosis of the vessels of the iris. One authority, also, has claimed that the good results we get from iridectomy are due principally to the establishment of a new arteriovenous anastomosis and absorption through the edges of the iris.

In my opinion, Elliott's operation is especially adapted to the class of cases known as fulminant acute glaucoma, where we have an extremely hard eye with a very shallow anterior chamber. In this type of cases iridectomy is a very difficult procedure and we sometimes fail to make as good a peripheral iridectomy as we should.

Dr. Gray also mentioned the La Grange operation, by which it is claimed the same results may be accomplished by making a corneo-scleral section with a cataract knife, and then dissecting out a flap of sclera with scissors and forceps and covering it up with conjunctiva. This operation is always combined with iridectomy and accomplishes practically the same thing as the Elliott operation. However, the great danger of this operation is that we are apt to have prolapse of the ciliary body and expulsive hemorrhage; in fact, I know of one case in which the eye was lost as the result of such an accident. In Elliott's operation, this accident is not likely to occur. The opening is small and the danger of prolapse is not so great as where we make a larger opening.

I think another class of cases in which we will get good results from the Elliott operation is in chronic glaucoma where iridectomy has failed to stop the progress of the disease. In some cases iridectomy proves a very great boon indeed, but in cases where it fails I have been wondering whether some one would not devise an operation that would give relief.

The question whether the fistula in the eye will be permanent is one that deserves attention. I think the longest observation that has been made has been in the eyes of dogs in which this operation was done, and upon removing the eye eleven months later, it was shown that communication had been established between the anterior chamber and the sub-conjunctival space, and that drainage was still efficient. We also know that in a certain number of cases, tension has been known to return after this operation. I believe there are one or two accessory measures that will help us in preventing this. One is massage over the cornea after operation, which will undoubtedly assist in keeping up this fistulization of the iris, as it is called by the author.

Another point that occurs to me is that we are sometimes apt to have intra-ocular damage following this operation, which, however, is usually temporary. In one case of chronic glaucoma, with acute exacerbations, and intermittent attacks of increased tension, in which I performed the Elliott operation, the vision immediately following the operation was considerably reduced. Upon ophthalmoscopic examination I found a mass of some kind, not corresponding to the wound but upward and outward, and I could not determine whether it was detachment of the retina, choroidal exudate or hemorrhage. It looked more like choroidal exudate than anything else. Later I learned that this has been observed, not only after sclerotomy, but iridectomy as well, and consists of detachment of the choroid and that the patient usually recovers from it. This was true in my case, the vision gradually improving until, in four or five weeks, he had regained the same acuity of vision that he had before operation.

I would advocate the performance of iridectomy in every case in conjunction with sclerotomy and thus satisfy both sides of the controversy as to which operation does the good.

Elliott has described a peculiar sucking sensation which the operator feels when the trephine has gone through the sclera. I was urprised when, with some trepidation I set the apparatus to working, to feel this sucking sensation when I got through the sclera so distinctly that it made the operation a very simple procedure, and I approached the second operation with a great deal more confidence than I had the first. Just at the moment when the trephine is about to go through the sclera, a distinct sucking sensation is transmitted to the fingers, upon feeling which the instrument is withdrawn. The little disc of sclera sometimes comes with it, but when it does not it is simply hanging by a thread and can be easily removed with forceps and scissors. I believe the operative procedure of the future in glaucoma is combined sclerectomy and iridectomy.

Joseph J. Shafer: From the information I have obtained, I believe Dr. Ray was the first in our city to perform this scleral-decompression operation with Von Hippel's trephine, to establish a permanent subconjunctival fistulization of the cornea in glaucoma, to reduce tension. Fergus was the first ophthalmic surgeon to trephine, selecting the site anterior to the ciliary body, subsequently taken up by Elliott, of Madras, India, who reports between three and four hundred cases with good results. He has demonstrated, clinically, continuous fistulization of the cornea from two to three years after the operation.

I cherish the hope that this operation shall stand the "test of time." I believe it is going to be the future operation for reduction of tension. Then, if that be true, we can in the future approach our glaucomatous patients with some degree of confidence, with the information that as the result of this operation they will retain their present sub-normal sight, with a possibility of improvement.

Iridectomy has been found wanting. It has not come up to our expectations from the standpoint of any permanent results. I remember those cases that I iridectomized some seven or eight years ago. While immediately after the operation there was an apparent reduction of tension and improvement of sight, but up to the present time they are giving evidence of progressive loss of sight. I believe that the majority of us who are doing this character of surgery will confirm my opinion of iridectomy.

Now, a word or two about the flap. Some operators in dissecting up the flap, include in the bulbar conjunctiva, the episcleral tissue as a safeguard, to prevent button-holing the flap. I see no advantage in including the episcleral tissue; in fact, it is a disadvantage, owing to the fact that the episcleral tissue loses itself at the corneo-scleral margin. The episcleral tissue should not be disturbed. It should remain in the floor of the flap as it is highly vascular and serves as a fertile soil for the absorption of the aqueous coming through the fistulous tract. When absorption is good we have no damming up and no increase in tension.

This scleral decompression operation has a wide utility. It has eliminated from our surgical field operations that are frequently employed for the reduction of tension; namely, paracentesis of the cornea, anterior and posterior sclerotomy, and optico-celio-neurotomy. It has also an application where iridectomy is impossible, so-called absolute glaucoma.

So far I have had only the opportunity to employ this operation in two cases. One was an out-of-town patient who consulted me for relief of pain and restoration of sight. He was afflicted with absolute glaucoma, with anterior staphyloma, or better known as "cataracta in glaucomatosa." I informed him that no man in the world could restore his sight. For relief of pain I suggested enucleation of the eye or trephine. He accepted the latter. He was sent to the Infirmary and prepared in the usual way. A distinct bulbar conjunctival flap was dissected up, one milimeter beyond the corneo-scleral margin and the trephine was applied. I also recognized the fact that the iris was matted down by adhesions to the posterior portion of the cornea, as these cases usually are. As I extracted the nipple with a small pair of iridectomy forceps, the iris came away with the nipple, due to the atrophic condition of the iris. It was a fortunate button-hole combined with the nipple extraction. The flap was turned back and stitched in the usual way. A pressure bandage was applied for two weeks. It was indeed surprising to note the staphyloma receding and the reduction of tension.

Concerning the LaGrange operation, to my mind it is a dangerous one. There is no man that shall do a LaGrange operation on my eye, I care not how brilliant a technique he may possess. Judging from the reports that are coming from Continental Europe through the German press, those who have tinkered with the LaGrange in and around the ciliary body, are now in a state of remorse, as there is great danger of inflicting injury to the ciliary body with subsequent destruction of sight. It is here where the Fergus-Elliott operation becomes one of the most brilliant contributions to ocular surgery, because it is so simple, practical, logical and conservative. It is destined to become the future operation in this condition, as so well indicated by my colleague, Dr. Ray.

ACUTE ABSCESS OF MIDDLE EAR: ETIOLOGY, SYMPTOMS AND TREATMENT.

By Wm. C. White, Louisville.

(Original article appeared in the Journal, January 15th, page 64.)

DISCUSSION.

Adolph O. Pfingst: I wish to compliment Dr. White upon the very practical and instructive paper he has given us.

Speaking first of the etiology of this disease, we are all familiar with such causative factors as adenoids, enlarged tonsillar tissue, etc., and also the exanthematous fevers. Therefore, I will not discuss these.

One thing that has especially interested me in connection with middle ear trouble in children, particularly abscess, is the apparent relationship between this condition and teething. We can readily understand why a child should have the earache when a tooth is coming through the gum, but it is not so easy to understand why we should find abscess of the ear in connection with the cutting of teeth. This is a very common occurrence in young people, but I was loath to believe that there was any connection between the two until recently when I had a case that impressed me very much, and led me to conclude that an abscess in the ear in conjunction with eruption of teeth is not always a coincidence. When this child was about six months old it began cutting the incisors, accompanied by redness and swelling of the gums, and abscesses developed in both ears which lasted until the teeth came through. When the tenderness and inflammation of the gums subsided there was a simultaneous subsidence of the ear trouble. At intervals during the next two years the same thing occurred in connection with the cutting of each group of teeth. When the last molars came through the perforation in the drum again closed and up to this time there has been no recurrence of the abscess. I looked up this subject at the time and found that very few textbooks mentioned any connection between the two. I quote the following from Holt's "Diseases of Children:"

"When symptoms of middle ear inflammation appear coincidentally with the acute stage of teething, and disappear immediately after the teeth come through, and when we see this repeated four or five times in the same child with the eruption of each group of teeth accompanied by redness and swelling of the gums, we cannot escape the conclusion that dentition is a factor in the production of middle ear abscess."

At the time I saw this case (two years ago) I looked up all the authorities on the subject, and none of them mentioned it except two, both of which were small text books.

Bishop cites a case of mastoid abscess occuring in a patient with necrotic teeth, for which a mastoid operation was done, but there was no healing process until the teeth were extracted, after which it healed. Another author cites several cases in which middle ear abscess developed coincident with the eruption of teeth.

As to other factors in the etiology, mentioned by Dr. White, I wish to especially speak of nasal irrigation. I was much surprised to learn that Dr. White is under the impression that otologists practice this method of treatment. Most of the otologists with whom I have come in contact condemn it, especially in children. We are all familiar with the way children struggle when we attempt to use measures of this kind, as a result of which we are almost bound to get some of this solution into the tympanic cavity by way of the Eustachian tube.

As to the symptoms of middle ear abscess in children, we usually have considerable trouble in making the diagnosis. I have seen a good many small children with middle ear pain in which the drum showed little or no redness. I know that I have overlooked two cases, where I told the family there was no evidence of an abscess in the child's ear and during the night there was a spontaneous rupture of the drum. Of course, where we have the picture of pronounced redness and bulging of the drum, as depicted by Dr. White, the diagnosis is easy enough. A most important guide is the child's repeated crying and putting the hand to the ear. Examination then usually reveals redness of the drum. In children I pay more attention to the general appearance of the drum and believe that a dull drum with hardly any redness, is always indicative of fluid behind it. This loss of lustre is not uncommon and we have to be on our guard, when it occurs, even where we find a drum that is not red and bulging.

As to treatment, it is always interesting to hear about the various household remedies Dr. White mentioned. I wish to especially condemn the mixture of oil and laudanum which is a favorite remedy with the laity. It is not sterile and if the drum should break the watery fluid and the oil will not mix and it simply serves to dam up the fluid. Glycerine holds heat well. I use about one part glycerine to three parts water and add some antiseptic solution, such as carbolic acid. It is a difficult matter sometimes to tell what to do for these little patients. One thing that has always been a favorite with me is the introduction of chloroform fumes into the ear, which will afford relief in the majority of cases. The method of introduction is to put a few drops of chloroform on cotton inserted in the pipette of a medicine dropper, insert the large end of the dropper into the ear, apply the mouth to the small end and blow the fumes into the ear. Heat applied in any way, either by a dry or moist poultice, is usually effective. The Germans use chamomile, a very pleasant smelling flower which makes an admirable hot poultice. The child does not avoid it as it would a hot linseed poultice or other things of that kind. Like Dr. White I would, as I have done for years, condemn the use of peroxide of hydrogen in ears discharging pus.

As to operation, I do not think we should wait too long before incising the drum. The mastoid antrum in a child is up high, closer to the tympanic cavity and has a short aditus hence the danger of infection is greater than in adults. It would be still greater were it not for the fact that the parts are more elastic and this prevents the infection from being forced up into the antrum. I think the proper thing is to incise early where there is any bulging of the drum, especially in the presence of pain or high temperature.

Dr. White's suggestion to give the child gas anesthesia is a good one, as the operation though a brief one, is carried out with difficulty and danger in a struggling child.

The question has been asked, whether irrigation should be practiced after the drum has been incised. We are told to tampon the ear with gauze. This sounds all right, and it may be all right in adults but it is almost an impossibility to properly pack the ear of a child three years old. It might be packed once under the anesthesia, but that would be the last time. Therefore, I think as soon as we notice pus the thing to do is to irrigate. I believe in frequent irrigation under low pressure to avoid caking of the fluid in the ear canal.

Henry E. Tuley: There is one point in the etiology of middle ear trouble upon which sufficient stress has not been laid. At this season of the year especially, when there are large crowds in the stores and around shop windows, we see a great many infectious diseases, and the specialists are going to see a great many middle ear cases.

One thing that has been impressed upon me especially in institution work is the infrequency of middle ear abscess of the acute type. I have seen a number of cases recently in which the only symptoms that would lead one to suspect middle ear abscess were persistent temperature and deafness. It may be that these children are stoical and do not complain, which is frequently true of institution children, but I have noticed the same thing in private practice, in some instances the condition remaining undiagnosed until spontaneous rupture of the drum occurs. However, where there is persistent temperature and deafness, it should make one suspect middle ear abscess.

Sam E. Woody: In regard to Dr. Tuley's remarks, I think we are all apt to forget that children are, to a certain extent, like dumb animals, and do not always express themselves. I believe children suffer a great deal more and get less sympathy than grown people. I do not think I ever saw a case of middle ear trouble in a child that was not exceedingly painful; in fact, the three chief causes of unappeasable crying in children are hunger, ear-ache and the pain of indigestion. These three are easily differentiated. If due to hunger, the breast or bottle settles the question. If due to indigestion or colic, there is usually a history of indiscretion in feeding, twisting about in bed, and the paroxysmal character of the pain, ending in belching or breaking wind. Earache is unappeasible. Nothing stops it. If the child is old enough to have the sense of localization well developed, that may help us somewhat. It is exceedingly important in these cases to make the diagnosis. Early diagnosis of middle ear abscess will avoid many mastoid operations and eventual deafness. When, upon looking into the child's ear we find redness and bulging of the drum, then is the time to send for Dr. White, or Dr. Pfingst or some of the rest of us to open it.

I have been thinking for some time that in my next case of this kind I would try vaccine therapy, either the mixed staphylococcus or the Van Cott formula. I would like to ask the specialists present what has been their experience with this form of treatment.

C. T. Wolfe: Dr. White has covered the subject so thoroughly that he has left but little to be discussed. I must agree with him in condemning irrigation, especially through the nose. If we will use a little sterile vaseline on the end of a cotton-tipped applicator, we will find that it will greatly relieve these children of the dry sensation in the nose. Accompanying middle ear trouble we practically always find irritation of the throat and pharyngeal fossae, and if the child is old enough to use a mild alkaline gargle in a prone position it will be found to be very beneficial. Then if the child be placed on its side and a mild antiseptic solution allowed to trickle down over the tonsil and into the pharyngeal ring, followed by the application of nitrate of silver or argyrol, it will tend to prevent a recurrence.

The question is often asked by the general practitioner: "What can be done to prevent middle ear complications in the acute exanthemata?" What I have just mentioned is one of the best preventatives. In my opinion, the use of alkaline solutions in an atomizer can do nothing but harm.

I also agree with Dr. White in his condemnation of peroxide of hydrogen; it can only do harm when used after an incision in the drum has been made, because, through its mechanical action, caused by the liberation of oxygen, it is apt to carry the infection up into the antrum.

In my experience, the application of equal parts of menthol, carbolic acid and cocaine has served to relieve the pain better than phenol or hot applications.

N. D. Abell: I have certainly appreciated the paper. In regard to treating these cases with laudanum, which is so common among the laity, I remember one case in which it did a great deal of harm. In this case there had been a previous rupture of the drum, possibly due to tuberculosis or syphilis, I forget which. However, when the mother poured laudanum into the ear to relieve the earache, it went on through the Eustachian tube and the child swallowed it. It almost cost the child's life, but it finally pulled through all right.

Virgil E. Simpson: A casual reference to our clinical work would seem to justify the conclusion that doctors are more wedded to old ideas than any other class of men. The use of any form of opium, locally, for the purpose of relieving pain, as, for instance, the application of laudanum, either alone or with olive, castor oil, glycerin, or what-not, to the external auditory canal is worse than time wasted. Opium is a most efficient pain reliever, not because of its local action, but by being absorbed and acting directly upon the centers of sensation; locally it has no effect. It is absolutely useless, to say nothing of its objectionable phases, such as filling up the ear with a sticky, gummy mass which soon becomes rancid.

If I understood Dr. White correctly, he said that within six hours from the time this child's nose was irrigated, pus was present in the ear. It seems to me that this was a very short time for peptonization of the cells and other structures to take place by reason of bacterial activity.

So far as vaccines are concerned, I think they would do good in these cases, but they certainly should not precede the use of the knife. Immediate relief of pressure by the discharge secured by incision is a **sine qua non** of the treatment. However, I can readily understand how the use of vaccine, following careful microscopic examination of the discharge to determine the character of infection, might materially aid in a prompt recovery. One great trouble in connection with the use of vaccines is that they are frequently employed blindly, in that the character of infection is not determined, and the so-called Van Cott vaccine, containing staphylococci, streptococci and a colon bacillus or two is given, and good results are expected. We ought to know what kind of an infection we are dealing with. A pneumococcic infection cannot be cured with a staphylococcus or streptococcus vaccine, and unless we determine the nature of the infection, we are going at it blindly.

Edward Speidel: In advising the public to practice irrigation of the ear with a fountain syringe I think they should be directed to not have the bag at too great a height, so that the stream will not flow into the ear with so much force. Otherwise I believe there is danger of irrigating some of the pus back into the mastoid cavity.

J. R. Peabody: I have enjoyed the paper very much indeed.

I do not know that they have any surer way of diagnosing these conditions in Vienna than we have in this country. Austrians fear an anesthetic and I have never seen an anesthetic of any kind given for opening the drum in acute otitis media. They say that the pain only lasts a second. However, it is a question of holding the child still, and if you have it under an anesthetic it makes the operation much easier.

I wish to say something about the teething proposition. I had a good deal of experience with children before I took up this work and I believe that the apparent connection between acute abscess of the middle ear and teething is no more than that between this condition and acute intestinal infections. In both conditions the child's resistance is lowered. Furthermore, as a rule, the child has an acute coryza, pharyngitis, etc., and it seems to me that there is just as much connection between middle ear trouble and intestinal infections, as between middle ear trouble and teething.

W. C. White, (Closing): I have never seen an abscess of the middle ear occurring at the same time as eruption of the teeth. I know of the case Dr. Pfingst mentioned, however, and there is undoubtedly a connection between the two, because a great many men have reported similar cases. I think it is the expulsive efforts of the child, due to the cold it has, that forces the infection into the ear.

The conditions mentioned by Dr. Tuley are very prolific sources of middle ear abscess. I recently had a case in which the history was that the mother had taken the child down town to see Santa Claus, and it contracted a cold which was soon followed by a running ear.

Dr. Woody said that we are apt to underestimate the pain in these cases. I think he is right; we do not give these children credit for the amount of pain they suffer. Oftentimes they cannot tell you where the pain is and the condition is thought to be something else until finally diagnosis is made by rupture of the drum.

As to Dr. Wolfe's remarks, in regard to using vaseline, I nearly always use a preparation of menthol, carbolic acid and yellow iodide of mercury.

I do not agree with some of the gentlemen in regard to the application of silver nitrate to the throat. My experience has been that it seals the crypts of the tonsils. It is a cauterizing agent and when we apply it to the tonsils it is very apt to seal up the crypts, and if there is asecretion (which is nearly always present) it is sealed up and causes trouble later on. I use a preparation of ten minims of formaldehyde solution to three ounces of water, and if a test for formaldehyde is made twelve hours later, it will be found to be present.

In regard to Dr. Simpson's remarks, I saw this child when there were abscesses in both ears. The history was that it awoke screaming at about two o'clock in the morning, and when I got there the mother said that the child had taken a very bad cold and, being unable to get it to snuff salt-water through the nose, she had used a spray. Previous to this there had been no symptoms referable to the ear. I mention this as an illustration of the possibilities for harm in the practice of the laity of snuffing salt-water through the nose when they have a cold.

In regard to Dr. Speidel's remarks about the use of a fountain syringe for irrigating the ear, I would say that the lower part of the bag should be about twelve inches above the head, and in many instances you will be surprised to find that the child will hold perfectly still. Heat is an essential feature of irrigation. The fluid should be as hot as one can stand on the back of the hand. If it is a little too hot the child will have decided dizziness. Very often during irrigation the child will cough and strangle, which is an indication that the fluid is too hot or under too much pressure, and if there is a large opening in the drum, it is apt to be carried through the Eustachian tube and into the throat.

Dr. Peabody spoke of not using an anesthetic in these cases. We must bear in mind that we have a very small space in which to make an incision, and very often all the land-marks are destroyed, and it seems a little barbarous to absolutely hold the child down and make the incision. It is a very brief operation and a little gas will serve to make it painless and also avoid the nervous excitement consequent upon holding the child.

Therefore, I would strongly advocate the use of gas anesthesia in these cases.

In reference to the care of the nose and throat in measles, scarlet fever, diphtheria, etc., in all cases where there is an infection or a secretion in the back part of the nose that may lead to the ear, I use a very fine nebulizer with an oil spray to keep it away from the ear.

SOME POINTS IN DIAGNOSIS AND REMOVAL OF MALIGNANT CONDITIONS OF THE BREAST.

By A. D. Willmoth, Louisville.

(Original article appeared in the Journal, Jan. 15th, page 61).

DISCUSSION.

Jno. R. Wathen: I wish to speak to just one point in connection with this subject. We are taught that early diagnosis offers everything in malignancy, especially in the breast. We are also taught that 85 per cent. of all tumors of the breast are either malignant or will sooner or later become so. I had a case recently which made such an impression upon me that I am inclined to be a little pessimistic in regard to the prognosis in these breast cases even when seen early. Some time ago a man brought his sister here to the Infirmary for a surgical condition for which I operated upon her. During the time that his sister remained in the infirmary, this man became very much interested in surgical work, and after witnessing a number of operations for breast tumors, he was impressed by the apparent advantage of early operation and the bad results in late cases. Some months after he had returned home, he noticed a little tumor about the size of the end of the thumb, in his wife's breast. He at once wrote to me about it, describing the tumor very carefully, and I told him to bring her here for examination. He did so, and then stated that he desired the most radical operation that could be done. I operated upon her and cleaned out the axillary space after the method of Rodman, which I prefer, ligating all the blood vessels in the beginning, and leaving nothing in the axillary space but the blood vessels and nerves. I then had this little tumor examined by a pathologist, who pronounced it malignant. Two years later I heard from this man that his wife had died of a malignant condition as the direct result of the condition in the breast. A postmortem was held, and the physician who had charge of the case invited me and several others to be present. The glands in the mediastinal space were found to be loaded with a carcinomatous condition, as well as the liver and around the pancreas; in fact, practically everything on that side was deeply involved.

Now, here was a case in which operation was done at the earliest possible moment, with the consent of the husband to carry out the most radical procedure, with a return of the condition within two years. I believe that if all of these cases were followed up carefully, we would find a great many more recurrences, even in those operated upon early, than we are led to believe by many surgeons. It is my personal opinion that the saddest chapter in surgical malignancy to-day is the chapter on the breast.

Hugh N. Leavell: I have had opportunities of seeing quite a good deal of Dr. Rodman's work on diseases of the breast, and I believe that his statistics showing something like 60 per cent. of non-recurrences are absolutely correct. He keeps a very accurate and complete record of all these cases and follows them up pretty closely, not that he wishes to make his own work appear better than that of others, but because of the immense interest which he has in this particular line of work. I believe it can be truthfully stated that his recurrences in cancer of the breast amount to something like 40 per cent. of all cases. We know that the work he does is extremely thorough, so far as the amount of tissue removed, and enucleation of the glandular material in the axilla is concerned. I believe the incision he uses gives a better opportunity for the removal of the carcinomatous glandular structures from the axilla. There is also an advantage, I think, in beginning above and working downwards. Another advantage is, that while the incision is large, closure is comparatively easy, as compared even with Jackson's incision. I had an opportunity of seeing Dr. Jackson do a breast operation in the Mayo clinic two years ago, and I talked with him at some length on the subject. At that time he rather deplored the Rodman incision, claiming that his was by far the preferable one, but later results show that his percentage of recurrences is decidedly greater than in the Rodman clinic.

Another point that has been brought out, which I think should be emphasized, is the dissection of the fascia over the rectus muscle. It has been pretty clearly established that metastasis into the liver can be traced through the fascia of the rectus muscle; that the lymphatics carry it to the liver through this channel, and that if a portion of the fascia over the rectus muscle is removed at the time of operation, in many cases the liver will not become involved.

I have greatly enjoyed Dr. Willmoth's very practical paper, and we should take the subject home with us and give it very careful study. Every tumor of the breast is potentially malignant if not already so, and no tumor should be allowed to remain in the breast.

E. S. Allen: Just one point. It occurs to me that, in all probability, a great many of the postoperative recurrences of cancer of the breast are really transplantations, due to the cancer cells getting into the lymphatics or into the operative field. If one cell is left behind and takes on a growth, the result is a recurrence.

I can see how it is possible to have an anastomosis between the mammary and intercostal vessels after we have a recurrence or metastasis of the condition, but I do not understand how dissecting up the rectus fascia can in any way prevent a recurrence, nor why we should have a recurrence through this channel into the liver or abdominal organs, because no veins or lymphatics from this region go through the liver. Therefore, I do not see how dissecting out the fascia over the rectus muscle is going to prevent a recurrence in the liver any more than anywhere else, because when the cells are taken up by the venous system they must pass around through the general circulation and lodge somewhere.

J. K. Freeman: I will never forget the first carcinoma of the breast that I removed in 1896. This woman made a very nice recovery, although the tumor was quite large when it was removed. She came to see me in 1898, nearly two years later, and I congratulated her upon the fact that there was no sign of a recurrence whatever, and I felt very hopeful that the condition would not return. However, about six months later I was called to see her and found her suffering with considerable pain referred to the liver region. I made diagnosis of carcinoma of the liver and she died about two months later. The diagnosis was confirmed by post-mortem.

There was no metastatic involvement whatever in this case, and I have often wondered, could it not be that the same condition which existed in that woman to cause the first cancer might not also have caused the second one? This is an idea that I have long entertained but have not heard any one else mention it.

Geo. S. Coon: In making incision for removal of a cancer of the breast, it appears to me that the growth should be the main consideration rather than the breast itself; that is, the incision should be wide of the growth. This has been emphasized by many surgeons who, while they make a wide incision with respect to the growth, do not hesitate to save skin far removed from the growth, even though it may be comparatively close to the nipple. Of course, they all go some distance from the nipple, but most men believe that when they have made an incision wide of the growth they have carried out the proper procedure, and this method has obtained the best results in the cases I have seen.

I cannot agree with Dr. Wathen in his statement that cancer of the breast forms the saddest chapter in surgery, nor the worst outlook. I can recall numerous cases in which there have been no recurrences, and I believe nearly every surgeon can recall such cases. The fact that we are now saving anywhere from forty per cent. of these cases to the sixty per cent. attributed to Rodman is, I think, remarkable. As the last speaker stated, if we will go as wide of the growth as possible and thus prevent local glandular recurrence, and if we can prevent the squeezing of the cancer cells into the lymphatic channels, it is all we can expect from surgical procedure. When a recurrence takes place in some other part of the body we have no means of knowing whether or not the second condition had started at the time the first operation was done.

In regard to the dissection of the muscles, if I or any member of my family had a cancer of the breast, I would want the muscles removed, despite the fact that Murphy, for instance, advances the idea that the disease never recurs in the muscles. It has been shown that there are lymphatics in these muscles and, this being true, then they are liable to take on malignant growth. Furthermore we must remember that it is almost an impossibility to make a clean dissection of the fascia from the muscles. The fascia is thin and it is an exceedingly difficult matter to dissect it out. We hear of men who remove these glands in thirty minutes, but I do not believe it can be properly done in that length of time. Any one who has seen Halsted clean out the axilla, and has observed the care and patience he exercises, requiring from an hour and a half to two hours to complete the work, will at once observe the difference in the way the work is done. This is one class of work in particular in which I would advise, "no haste."

I was very much interested in a reecnt article by a man who had had considerable surgical experience in which the use of caustics was advocated. He reported a number of cases which he claimed were permanently cured by this means, some of which had enlarged glands in the axilla. This report would tend to confirm the idea that enlarged glands in the axilla are not always cancerous. Of course, I do not indorse this man's procedure which is of the sort that we usually denominate as quackery. In any case where there are enlarged glands in the axilla, it is certainly the proper procedure to take them out.

W. C. Dugan: Just a word in regard to leaving enlarged glands in the axilla in these cases. I do not believe it is in the power of any man to tell when glands which are enlarged are involved in the cancerous process and when they are not, and I think we are all agreed that every enlarged gland should be condemned and removed.

As to the use of caustics, of course we know that Dr. Coon does not want to convey the idea that he indorses any such procedure; it should be condemned in the strongest terms.

I agree with Dr. Wathen in the statement that the local condition is not an accurate index of the prognosis. I had an experience very much like the one he related. This patient had a very insignificant looking tumor of the breast; in fact, it was so insignificant that we were inclined to consider it benign. However, because of the fact that 85 per cent. of the breast tumors are either malignant or become so, it was concluded to sacrifice the breast and the axillary glands. Nevertheless, a recurrence with general carcinosis developed within three or four months after the operation and the patient died of acute carcinosis. I have seen other cases in which the primary condition made the prognosis appear very unfavorable, with no recurrence following operation. We must simply operate on every one of them, do the best we can and give a very guarded prognosis. In my experience I have not had 60 per cent. of non-recurrences by a great deal. Breast cases do not form the most favorable portion of my surgical work I can assure you. I have come to look upon them very unfavorably indeed.

Henry M. Rubel: I would like to ask how often the freezing microtome is used in this city in differentiating between malignant and benign tumors of the breast?

Some time ago the wife of a prominent citizen of Louisville developed a cancer of the breast, and the family physician immediately called in a surgeon, who advised radical operation. The woman's husband, who was quite a student and a man of more than average intelligence, asked the doctor whether there was any possibility of the growth being benign, to which the doctor replied that 85 per cent. of all growths of the breast were malignant with a possibility of the other 15 per cent becoming so. A consultant was desired and a prominent Cincinnati surgeon was called in, and the very first thing he asked was whether or not there was a freezing microtome in any of the hospitals here, to which he received a negative reply and the then suggested that the woman be taken to Cincinnati where a section of the growth could be examined and a positive diagnosis made. This was done and the tumor was found to be benign. I met this surgeon some months afterwards and he wanted to know whether any of the Louisville surgeons made use of the freezing microtome in differentiating benign from malignant growths. I would like to ask how many surgeons are employing this method, and if not how they differentiate between malignant and benign growths?

Emmet F. Horine: There are at least three freezing microtomes here that I know of.

Irvin Abell: I can only speak for myself in reply to Dr. Rubel's question. I have been using the freezing microtome for a number of years. If there is any doubt as to whether a tumor is malignant, the freezing microtome is used and the subsequent steps of the operation are determined by the result of that examination.

Lee Kahn: Will the essayist in closing state what is the earliest age of mammary cancer recorded in the literature he has consulted? I ask this having in mind a patient of 27 years from whom I three weeks ago removed two malignant breasts. In this rather unusual case it was the outer quadrants that were involved, contrary to what is expected in such a concurrent condition.

Five years ago I operated for a breast cancer in a patient even younger, 24 years of age, who stated that she observed the nodules six or seven years prior. In both cases the cancers were of scirrhus type. I may add that neither patient had borne a child.

A. D. Willmoth, (Closing): I wish to thank the gentlemen for their very generous discussion of the paper. The subject is too large to admit of taking up all its phases in one night.

First, in reply to Dr. Kahn's question, I will say that the earliest age at which I have encountered malignancy of the breast in my own experience was in a woman, 24 years of age, the mother of one child, who was in a far advanced stage when I saw her. By that I mean that the tumor was the size of a walnut. I made a very wide dissection of the breast, but within six months she had recurrence in a number of places and died. As I did not see the case at the last, I do not know which particular one killed her, but it was probably a recurrence in the liver. A number of cases have been reported in persons much younger than this woman by men who have made a close study of the question, ranging from childhood to 19 or 20 years of age, but such cases are very rare.

The quesiton of early diagnosis, which was touched upon by Dr. Wathen, is the one in which I hoped to elicit interest and discussion. You will all remember that in 1903 Pilcher published an excellent article in the Annals of Surgery, in which he stated that tumor formation was really a late manifestation of cancer. When he read this paper it brought forth a wide discussion. If tumor formation was a late manifestation of cancer, it was easy to understand what a difficult problem we had to deal with, and how very difficult it would be to raise the percentage of recoveries in these cases much above what it was at that time. Early diagnosis is a question in which the laity should be educated. I know there is not a surgeon in this room who does not every year see cases of cancer of the breast which have gone along for months and months without even their husbands knowing anything about it. It is a strange fact that women, as a rule, will deceive their closest relatives, and even try to delude themselves into the belief that they have not a growth in the breast, and allow it to go along until the time for successful operation has passed, and when the surgeon finally sees the case it is too far advanced to hope for a permanent cure. I think the laity should have as much grilling along this line as they have had on the subject of tuberculosis in the past five years. Every woman should be made to understand that every growth in the breast is to be considered malignant until proven otherwise. If this were done, most of these cases would be operated upon much earlier than they are at the present time.

I do not know the surgeon to whom Dr. Rubel refers, but I do know that there are a number of freezing microtomes in this city. In one of the cases mentioned in the paper, Dr. Allen made use of the freezing microtome and examined the growth and said it was benign, but upon removal and examination of a second little nodule, he pronounced it malignant and the breast was removed in toto. I am sure that nearly every surgeon ere makes use of the freezing microtome in cases where there is any doubt as to the diagnosis.

In regard to removal of the muscles, it is true that some cases of recurrence in the muscles have been recorded, but it is so rare that in a close study of over two thousand cases in Guy's Hospital in London, not a single recurrence in the muscles was noted.

Dr. Freeman touched upon an interesting point; that is, the possibility of a second cancer developing from the same cause, whatever it may be, that gave rise to the first. Rodman has called attention to this and some one else mentioned it several years ago—that if recurrence took place more than five years after operation, it is more than likely due to the same elements in the system that produced the first cancer. Many men at the present time look upon recurrences as second growths.

In regard to the use of caustics, I read the article referred to by Dr Coon; it appears in the last issue of the American Journal of Surgery. It is simply one of those articles that find their way into medical literature by some one who has burnt off a few cancers with caustics. Like Dr. Dugan, I do not believe any man present would rely upon caustic in the removal of a cancerous breast. I was very much surprised to see an article of that kind appearing in a journal of to-day.

The question of transplantation of cancer, touched upon by Dr. Allen, is a very important one. There is no doubt that these growths may be transplanted—not from cancer juices as one might think, because it has been proven that the strongest cancer juice that can be expressed will not produce a cancer under any circumstances, but from transplantation of the cells themselves, giving rise to another growth. This is illustrated every day by the transplantation of sarcoma by means of the blood stream. While sarcoma is not always a typically malignant growth, it is highly so from a clinical standpoint, and we know that it may be transplanted from one point to another through the blood stream.

Some one mentioned the fascia covering the rectus muscle. It has been shown, if I remember correctly, that about one-twentieth of the lymphatic supply in the region immediately surrounding the breast is distributed in this portion, and for that very reason many men have gone far wide of the mark and removed this fascia in order to get the few glands that are distributed in this area in which a recurrence does occasionally take place..

CLINICAL CASES.

UTERINE MYOMA (18½ LBs.) AND GALL STONES (1150).

(REPORT OF CASES.)

By Jno. R. Wathen, Louisville.

(Original article appeared in the Journal, Jan. 15th, page 68.)

DISCUSSION.

Irvin Abell: One thing that struck me as particularly interesting about Dr. Wathen's report, if I understood him correctly, was that there were no menstrual symptoms, no increase in the flow, etc. This is directly opposite to what we usually find in myoma or fibroma, whether they be intramural or submucous. I recall one case in my own experience within the past fourteen months, of two rather large myo-fibromas, in which I made diagnosis of ovarian cyst purely on account of the total absence of menstrual symptoms, there having been no increase either in the quantity or duration of the menstrual flow.

I think the doctor is to be congratulated upon this specimen.

C. B. Spalding: I am glad to have heard Dr. Wathen's report and also the case Dr. Abell referred to.

Five thousand nine hundred and thirty-four is the largest number of gall-stones I have ever seen in one person and, as Dr. Wathen's case, they were all in the gall-bladder and were easily removed, the patient making a rapid and uninterrupted recovery.

Emmet F. Horine: I would like to refer to the case of cholelithiasis reported by Dr. Wathen.

This woman had been sick for a number of years and, as a result, was in a somewhat weakened condition. Because of the fact that she was short, thick-necked and fat, weighing some 165 pounds, it was decided to use ether for anesthesia. When the anesthetic was begun her blood-pressure was 160 mm. of mercury; pulse 116; respiration, 28. Eight minutes later, when she was fully anesthetized, pulse was 112; blood-pressure 120 mm. Five minutes later, pulse was 124; blood-pressure 86 mm. In another five minutes, pulse was 124; blood pressure 90 mm. Between the last two blood-pressure estimations she received six grains of camphor in olive oil. Ten minutes later the blood-pressure was 96 mm.; pulse 124. At the end of the operation the pulse was 128 and the blood-pressure 94. The patient was placed in bed and received saline subcutaneously, after which the blood-pressure came up.

The point I desire to emphasize is the value of making blood-pressure estimations throughout the anesthesia. As you will note in this case, the blood-pressure at the start was 160 mm. of mercury, and at the end, 94 mm., but it must be borne in mind that this patient received stimulation during the operation. Repeated estimations of the blood-pressure show just when it is necessary to stimulate and also give one an index to the way the patient is standing the operation.

Jno. R. Wathen, (Closing): I wish to emphasize the point brought out by Dr. Horine; that is, the value of blood-pressure estimation.

I believe if the doctor had not told me that the arterial tension was dropping in this case, I would have lost the patient on the table. In my opinion, every anesthetist to-day should be required to make use of an aparatus for determining the arterial tension. I believe that no anesthetist has a right to give anesthesia unless he makes constant use of an apparatus for determining the arterial tension.

AN UNUSUAL GESTATION.

By J. K. Freeman, Louisville.

(Original article appeared in the Journal, Jan. 15th, page 68.)

DISCUSSION.

Simrall Anderson: I had the pleasure of assisting Dr. Freeman in this operation and, as he has stated, there was nothing unusual in the method of dealing with the pedicle. As we always do, the broad ligament was transfixed, after which the raw edges were turned in with a small catgut suture. On the right side the tube was removed, and a small piece of the ovary, which was cystic, was taken out. There was quite a good sized haematoma in it.

A short time after that the doctor called me to his office to see this woman. I put my hand on her abdomen, felt a kick and immediately said that it was a case of pregnancy. When he told me who she was I could hardly believe it, but later events proved the diagnosis to be correct.

This is one of the most interesting cases I have ever seen. I do not see how it was possible for this woman to have become pregnant unless there was a patulous opening between the portion of the ovary that was left and the cavity of the uterus, due to the catgut being absorbed and leaving a little opening. That is the only way in which I can account for it.

F. T. Fort: Knowing Dr. Freeman as I do, I believe every word he has uttered in this report, although it sounds very improbable. The only explanation I can offer is that there must have been an anomalous distribution of the Graafian follicles, with perhaps some ovarian tissue in the uterus, by which means the spermatazoa came in contact with the ovum and impregnation followed.

Edward Speidel: I remember a somewhat similar case in which I assisted Dr. McMurtry in operating, and we positively removed both ovaries. This was a case of gonorrheal salpingitis. Of course, we were sure that the woman would never become pregnant again. Three years later, however, I delivered her of a full term baby.

The only way in which we can absolutely sterilize a woman is to cut out a section of the intrauterine portion of the Fallopian tubes and then stitch the uterine musculature over the opening. We know there are numerous cases on record where, after making a kink in the Fallopian tube, or throwing a ligature around the end of the tube, communication was later re-established and the woman again became pregnant.

J. K. Freeman, (Closing): I wish to thank the gentlemen for the interest they have shown in this case.

Several theories might be advanced to account for this phenomenon. In looking up the literature on the subject, I found in "Anomalies and Curiosities of Medicine" reports of a number of cases in which women had become pregnant as long as two years after both tubes and ovaries had been removed and the stumps cauterized. This would lead us to suspect that there was probably an ovum in the uterus at the time of the operation which became impregnated later on. Another theory is that advanced by Dr. Fort, that there was some ovarian tissue in the cavity of the uterus that became active after the ovaries had been removed, and furnished the ovum. However, I can hardly understand how a woman without ovaries can become pregnant even when a part of the tube is left. A report from the Johns Hopkins Hospital states that they have had several cases of pregnancy after removal of the tubes and ovaries and have had ectopic gestation in the stumps of the tubes.

BRILL'S DISEASE.

(REPORT OF CASE.)

By L. P. Durrett, Louisville.

In 1898, Dr. N. E. Brill, of Mt. Sinai Hospital, New York reported a disease clinically resembling typhoid fever. At that time the paper was freely discussed and most physicians were of the opinion that it was typhoid fever. Brill's original paper was based on 17 cases, but by 1910 he had observed over 200 cases. The salient features of the disease, as Brill described it, are, acute onset with chills or chilly sensations, severe at times; agonizing headache which continues throughout the course of the disease; a rapidly rising fever which persists from ten to nineteen days, with great prostration, and an extensive erythematous or hemorrhagic eruption.

Clinically, the disease differs from typhoid fever in its shorter duration, in the intensity of symptoms, the different character of the eruption and the absence of the Widal reaction and the typhoid bacilli in the blood. It has been suggested that it may be a modified form of typhus fever; however, very few cases have been reported outside of New York City.

Inoculation experiments made by Brill show pretty clearly that it is probably not identical with the so-called tabardillous, or Mexican typhus. Whether or not it is allied to European typhus is still an open question.

On December 13th, 1911, I was called to see Mrs. D., whose family history was as follows: Father living and healthy; mother died of Bright's disease. Patient's previous history good; mother of two healthy children.

SYMPTOMS.

Temperature 104 in the axilla; pulse 110. Complained of pain similar to that of la grippe. Diarrhoea of a watery character and very offensive which yielded to treatment. On the evening of the 14th, patient felt much better after having taken a dose of castor oil, followed by quinin, salicylic acid and aconite every two hours.

On December 16th I found patient complaining of severe pains in the head; temperature 103 3-5; some gurgling in the right iliac region; sordes on the teeth. This condition lasted until December 23rd making ten days of diarrhoea, fever and intense headache. During five days of that period her temperature was 101 2-5 to 102 2-5, with sordes on the teeth and lips which was hard to peel off. On December 24th the bowels were constipated without any tenderness or swelling in the abdomen, and continued so during the rest of the illness. On December 25th she complained of pain in the lower and outer parts of the legs, and on examination I found red, hemorrhagic spots varying in size from a pea to a silver quarter. These spots were as sensitive as boils. She could not stand the slightest pressure on them and complained when the bed clothes touched them. These elevated hemorrhagic spots faded away in about ten days. During the time they were on her arms and legs her temperature ranged from 101 2-5 to 102 3-5, with intense headache and she was constantly begging me to give her something to relieve her head.

The patient was left in an exhausted conition and made a slow convalescence, but finally recovered and at the present time is enjoying good health.

On December 24th Dr. Hugh N. Leavell saw the patient with me and said that he had had a case resembling it. He thought Mrs. D's condition was a septic one.

The diagnosis in this case, if I am correct, was made by me after looking up the history of Brill's disease in the *Yale Medical Journal.*

DISCUSSION.

W. H. Coleman: I would like for the doctor in closing to tell us whether he gave this patient any drug which might have caused an erythema; that is, whether he gave anything more than salicylic acid and how long it was continued?

Jno. J. Moren: I would like to ask whether this patient was a native of Louisville, and if there was a possibility of body lice or anything of that kind?

W. C. Dugan: I saw this patient and I have read descriptions of Brill's disease. I am quite sure that it was a case of Brill's disease, as the doctor has stated. However, I believe her temperature was higher than he mentioned, something like 104. She had the eruption and the prostration, with the most intense headache and the intolerance and listlessness that is seen in the third week of typhoid fever. The disease terminated abruptly, as I understand from the doctor's description, and from the description given me by a friend of mine who practiced in Mexico, I am sure that it was not a case of the modified typhus that they have there.

L. P. Durrett, (Closing): Answering Dr. Moren, I will say that this patient comes of a good German family of well-to-do people. The salicylic acid and quinin were kept up for only 48 hours; the balance of the treatment was the same as we would give in a case of typhoid fever. I do not think there was any possibility of body lice on this woman.

SINUS THROMBOSIS WITH PURULENT MENINGITIS.

(REPORT OF CASE.)

By I. Lederman, Louisville.

The patient, age 21, male, colored, was admitted to the City Hospital, October the 13th, 1912, with the following history: Has had pain around the right ear and mastoid for the past two weeks, gradually growing worse. No discharge from ear during this time. No previous illness. Was kicked by a horse on the nose eight years ago and was burned about the face some years ago. Denies specific history. Temperature on admission 97°, pulse 68, respiration 24. He was a small, emaciated specimen of humanity, revolting in appearance, due to extensive scars on the face and the absence of nasal adornment. Though denying specific history he undoubtedly had some years ago suffered the ravages of syphilis, as evidenced by complete absence of the nasal septum and the characteristic scars of the soft palate and pharynx. Small cavity existed in each lung.

The ear began to discharge suddenly and profusely the following day, and I examined the patient shortly after. The case was then a picture of simple mastoid suppuration with oedema over the antrum and tenderness on pressure in the usual locations, i.e. the antrum tip and emissary vein. The auditory canal was completely collapsed and constantly draining pus in considerable quantity. Pain was referred to the mastoid region. Two days later the first operation was performed. It was remarked at the time that the oedema over the mastoid had entirely disappeared but the tenderness persisted and drooping of the canal was unchanged. Up to this time temperature ranged from 97° to 99 2-5°, pulse 72 to 88, respiration 20 to 26. No additional symptoms had developed. The operation contemplated was the classical opening of the mastoid for acute suppuration. After removing healthy cortex, the antrum was readily found. It was filled with thin yellow pus which welled up at the first exposure of the antrum as though under pressure. After the antrum and adjacent cells were thoroughly curetted the tip of the mastoid showed no evidence of involvement, but the cells leading backward to the sigmoid groove were found to be soft and filled with a cheesy-like material. Following in this direction we found a defect in the sigmoid groove and the same character of pus as that found in the antrum was seen to surround the sigmoid portion of the lateral sinus. The sinus wall was covered with granulation tissue and pulsation was noted. The sinus was not disturbed. The wound now appeared as a large smooth cavity, a wide communication with the middle ear cavity and apparently healthy bone in every direction. The sinus was exposed over an area of 3-4 of an inch. The diagnosis now was simple mastoid suppuration with perisinus abscess. Specimen of pus taken directly from the antrum showed pure culture of pneumococcus.

Following the operation the wound showed no tendency to repair, the bone remaining pale and bare of healthy granulations. There was no secretion except from the neck from which pus could be pressed into the wound for several days, then this ceased. Though he suffered pain in and around the wound, headache was not a marked symptom. Stiffness of the neck persisted, yet the characteristic infiltration of the neck or the cord like filling of the jugular were absent. The pupils were normal, ophthalmoscope examination was unsatisfactory because of extensive corneal opacities. The temperature remained normal until the eighth day when it rose to 102°, then for two days ranged from 99° to 101°. At no time were there chills or sweats. Ten days after the operation he suddenly became delirious and Dr. C. T. Wolfe who assisted me throughout the management of the case was called. He immediately summoned me and prepared for operation. I found the patient in muttering delirium, pupils dilated, no paralyses, temperature 101°, pulse 96, respiration 34. We operated immediately. The first step after cleansing the original operative cavity consisted in exposing the dura of the middle cerebrum. This was healthy in appearance and showing no evidence of pressure. Next the exposed sinus was inspected. It had not changed appearance and still pulsated. Sufficient bone was removed to expose it beyond the superior knee and at this point it had the grayish color indicating the presence of phlebitis and thrombus.

The tip of the mastoid was then removed after which the sinus was incised. No bleeding followed. The use of the curette in the direction of the lateral sinus was immediately followed by a gush of dark blood evidencing that the clot did not extend beyond this point. It was impossible to establish bleeding from below though the curette seemed to reach quite to the jugular bulb. Though we had worked as rapidly as possible the patient at this point showed signs of collapse, pulse and respiration becoming very rapid. While the jugular vein was being hastily ligated, venous transfusion of salt solution was given, after which the patient was placed in bed and the usual stimulating measures resorted to. He did not rally, however, passing away three hours later.

Dr. Baldauf performed the autopsy. The brain showed engorgement of the cortical veins and purulent exudate covering the meninges of the base of the occipital lobe and extending to the fissure of Sylvius on both sides, more marked on the side corresponding to the mastoid disease. Culture from this secretion showed staphylococci. Portions of ante-mortem clot were found clinging to the walls of the sinus. The features of interest in this case are the absence of symptoms which might have indicated the pathology found and the sudden onset of meningeal symptoms. It is very probable and indeed there is no doubt in my mind that the sinus thrombosis existed at the time of the first operation. Yet it seemed good judgment to leave it untouched in the absence of more pronounced local or general symptoms.

The following group of symptoms are those enumerated by Ballance and when present are pathognomonic of septic thrombosis.

1st. History of purulent discharge from the ear for a period of more than a year,—absent in this case, the history being of two weeks' duration.

2nd. Sudden onset of illness with headache, vomiting, rigor and pain in affected ear. —all absent except pain in ear.

3rd. Oscillating temperature—absent.

4th. Vomiting repeated day by day—absent.

5th. Second, third or more rigors—absent.

6th. Local oedema and tenderness over the mastoid or in the course of the internal jugular, present over mastoid not in course of the jugular.

7th. Tenderness on pressure at posterior border of mastoid and below external occipital protuberance—not elicited.

8th. Stiffness of the muscles of the side of the neck. Present.

9th. Optic neuritis—not recognized. The latter symptom may have been the means of making the diagnosis, as it is reported by various authorities to be present in from 10 to 50 per cent. of cases.

Was the meningitis directly due to the sinus phlebitis or coincident with it or did it develop subsequently to the first operation? Might a fatal issue have been prevented by opening the sinus at the first operation? Was the second operation advisable or was it grasping at a hopeless straw? The patient had both syphilis and tuberculosis; what bearing did this fact have on the atypical symptomatology of this case? That the case was hopeless was evidenced by the post-mortem findings.

DISCUSSION.

Adolph O. Pfingst: I have been very much interested in this case, and I think the members of the society should be grateful for reports of this kind. As a rule, we are apt to regard a discharge from the ear veiy lightly, but if we will stop to consider the fact that we have one death in every six or seven hundred cases of purulent otitis media, we will realize the importance of the subject. I believe statistics show that forty per cent. of the intracranial complications of otitis media are of the character illustrated by Dr. Lederman's case; namely, thrombus of the lateral sinus.

Dr. Lederman's case is especially interesting because of the obscure symptoms. Of the various intracranial complications of otitis media, the one that we can ordinarily recognize with the greatest ease is thrombosis of the sinus. The condition usually runs a typical course, the onset being sudden, with stoppage of the discharge from the ear, accompanied by high temperature, usually preceded by a chill; then a drop in the temperature followed by a rise on the same day, and the next morning the patient will be apparently normal, only to be followed by another chill, and so on. Dr. Lederman's case had none of these characteristics.

Another interesting feature of this case is the fact that the condition occurred in a case of acute otitis media. Almost without exception we find it in chronic cases. It appears that pus in the antrum is followed by breaking down of the bone, and the pus works backwards and forms first a peri-sinus abscess. I believe that the trouble was originally a peri-sinus abscess which invaded the vein secondarily. I believe too that in a large majority of these cases the peri-sinus abscess forms but becomes localized by the inflammatory process and instead of spreading into the meninges, the pus finally finds its way into the sinus, forming a clot along the vein wall and finally an obstructing thrombus. After the thrombus has formed there may be continuation of the breaking down process, and a meningitis sometimes results. I believe it would have been well in this case, to have gotten a specimen of the blood and subjected it to microscopical examination. This would throw some light on the question whether or not the symptoms were due to a septic condition in the vein. In some of the later journals from Vienna it is suggested that examination of the blood for its coagulative properties is of value; in the intracranial pus cases, there is an increase in the rapidity of coagulation, especially in thrombosis. In some cases reported the time required for coagulation of the blood was reduced to two or three minutes, instead of five or six minutes as is usually required in normal blood, and a great deal of stress is laid upon this factor in the diagnosis of sinus thrombosis. By resorting to lumbar puncture Dr. Lederman would also have been able to gain some information of value.

S. G. Dabney: I do not believe diagnosis could have been made any earlier in this case by any possible means. It is one of those exceedingly atypical cases that is very beneficial to hear related, because it serves to put us all on our guard. We are certainly indebted to Dr. Lederman for this report.

It would not appear probable that the condition could have existed for ten days before it was detected. I am of the opinion that the thrombosis took place just a short time before the sudden rise in temperature mentioned by Dr. Lederman.

The symptoms of this condition that we all recognize are the ones referred to by Dr. Lederman, including tremendous ups and downs in the temperature within twelve hours, possibly going as high as 105 and down to 96. In the absence of this characteristic symptom, I do not know how the diagnosis could be made in such a case.

My own experience with sinus thrombosis has been limited to one case. Fortunately, they are rather rare. This case was in a young girl, sixteen years of age, occurring, as Dr. Ray says he often sees it, in an acute case of otitis media. She did not have a mastoiditis. I opened the mastoid but did not find a drop of pus in it. She died about two days after removal of the clot. The mortality following operation in such cases is very high. My recollection is that it is from forty to fifty per cent. following the removal of a clot from the lateral sinus.

Ap Morgan Vance: I think Dr. Lederman was right in giving this patient the benefit of the doubt. In my opinion we should sacrifice both self and surgery and give every one of these patients a chance. I have removed so many brains in cases that looked utterly hopeless and still the patients recovered that I am willing to operate in almost any case where the patient was still breathing.

Gaylord C. Hall: It seems to me that these cases naturally divide themselves into two large general classes, and I do not believe we can influence them to any extent. Those cases in which the septic process becomes very quickly circumscribed will recover under operation. On the other hand, in those cases which tend to become diffused, as in Dr. Lederman's case, recovery very seldom takes place and when it does it is the exception that proves the rule. I remember hearing a paper by Dr. Mygand, of Copenhagen, on the subject of otitic meningitis, and while the doctor reported a few cases in which recovery took place, it was the opinion of almost every other operator present that this condition was practically always fatal.

In the absence of any symptoms to guide him, I do not see how Dr. Lederman could have done other than he did, and I presume that the dyscrasis from which the patient suffered simply added to the certainty of a fatal issue.

I. A. Lederman, (Closing): Dr. Pfingst said that sinus thrombosis usually follows in the wake of a peri-sinus abscess. I do not think the number of cases of thrombus of the sinus that we see is at all proportionate to the number of peri-sinus abscesses that come under our observation. Therefore, I do not think this can always be considered the source of infection. On the other hand, we comparatively often find sinus thrombosis without any evidence of a peri-sinus abscess.

BILATERAL TUBERCULOSIS OF THE TESTICLES.

(REPORT OF CASE.)

By C. B. Spalding, Louisville.

The patient, J. B., age 31, colored, was referred to me by Dr. Peyton, of Stanford, Ky., with an enormous scrotal tumor, extending almost to the knees, and about ten or twelve inches in diameter. Patient's family history is good, having three brothers and three sisters and both parents living and healthy. Personal history, shows that at the age of 19 he contracted syphilis; and gonorrhea, for the first time, at the age of 20, followed by a stricture. The tumor dates from an injury sustained by being thrown against the weathers of a horse while riding bare-back, when he was 25 years old, or six years ago. Immediately following this injury the left testicle, the injured one, began to grow, and the left side of the scrotum gradually grew, until one year ago, the mass ruptured, and pus has been discharging since. At that time the right scrotal sac was about the size of a small orange. Since then, or during the past year, the whole scrotum has filled up until the enormous mass which I shall present, resulted. The right side ruptured and discharged for the first time a day or so before the operation.

Glands in both inguinal areas were enlarged as shown by the picture, however a bubo had been opened before the history of the tumor. Rectal examination showed no vesicular involvement. Patient's general condition good, and no general change that he has noticed, has occurred.

Examination of lungs negative. Heart and temperature normal, urine, normal. No urinary symptoms whatever.

On the 14th of December, I removed the tumor doing a bilateral castration, amputating most of the scrotum, closed the wound, using two rubber tubes for drainage. Then followed this operation with a bilateral inguinal dissection, simply packing these two wounds with gauze. The patient rallied from the operation in good shape, and that evening had a pulse of 72.

The convalescence was marked by quite a little infection, as was expected, which rapidly subsided by the use of hot applications, and after the first four or five days, the patient was put in a tub of hot water for 30 minutes twice a day. This was of very marked advantage, as shown by the rapidity of the cessation of infection following its use.

The pathological report; as very excellently demonstrated by Dr. Baldauf, showed the condition to be tubercular, the large bulk of the tumor resulting from inflammation and hemorrhage.

Rumpel-Leede Phenomenon of Scarlet Fever.—Meyer reports a case in which the hemorrhage in the skin occurred spontaneously, not, as usual, only after application of a Bier's stasis bandage. The typical phenomenon occurs in the bend of the elbow but in the case reported the petechia developed suddenly over the chest and neck as the child was coughing and retching. The phenomenon in question occurs regularly in scarlet fever but is found also in measles, and in some cases of diphtheria, syphilis and tonsillitis. (The phenomenon was described in detail in The Journal of the A. M. A., May 18, 1912, p. 1540.) The pathologic element is shown by the case with which the phenomenon can be elicited. It permitted an early diagnosis of scarlet fever in a number of Meyer's cases, before the eruption developed.

MEDICAL PROGRESS

DEPARTMENT OF OBSTETRICS.

Walker B. Gossett and E. F. Katzmann.

I.—PITUITARY EXTRACT.

During the past year this therapeutic agent has been used many times, and we may well devote our attention to some of the clinical reports which have been presented.

Hofbauer has collected notes from sixty-six cases in Winter's clinic at Koenigsberg.

Speaking of dosage, he says that there is no doubt that in many cases, 1-2 c.c. will have the desired result. The unit dose in the last forty cases has been 1 c.c. If ten minutes after injecting this amount no pains, or only weak or brief pains set in, the dose is repeated. In only rare instances has a third dose been necessary. Animal experimentation has shown that there is practically no toxicology. The pains are usually rhythmic and may commence three minutes after the injection, or, at the latest eight to ten minutes. The duration of the contraction varies from thirty seconds to three minutes. There may first be a prolonged tonic contraction, but the subsequent pains are regular. Hofbauer states that it is in the expulsive period that the results are most marked, but he cannot recommend its use for postpartum hemorrhage. The author has carefully noted the fetal heart in labor, and he believes that the drug will not cause asphyxia. He concludes by stating that pituitary extract has already won a permanent position in obstetrics.

Nagy believes that the extract gives excellent results in the postpartum period and in atony after labor. He states that not infrequently the pains succeed each other in stormy fashion, and relaxation is incomplete in the intervals between pains. Soon, however, the contractions become regular. The author has often noted a diminution in frequency of the fetal heart, and in one case when the child's head was low in the pelvis, the fetal heart became weak, and he was obliged to extract rapidly with forceps. The child was deeply asphyxiated and could not be resuscitated. Whether the extract was responsible, is of course unknown. He believes, however, that the remedy should not be used if the fetal heart is already weak.

Fries reports from Kromer's Greifswald clinic, that the remedy has been tested in seventy-five cases, and he believes it to be a dependable and harmless oxytocic, which does good work in both the first and second stages of labor.

In the after-birth period, its action is uncertain and inferior to ergot.

Roemer states that the drug fails to excite labor, or to hasten the first stage, but that excellent results are obtained where the pains are weak, and the cervix is widely dilated. The drug is harmless in proper dosage. He used the extract for seventeen cases, ten of which ended spontaneously, and in two of the seven cases terminated by forceps, the operation was demanded by poor fetal heart sounds.

Grunbaum reports excellent results in sixty-five cases, and believes that the use of the extract marks that inert specimens will naturally give poor results.

E. Hauch and L. Meyer state that the extract seems to be generally effectual in inducing contraction of the uterus at term and expulsion of the fetus, and it may render forceps delivery unnecessary. Its action before term is uncertain. They obtained such good results with it in four cases of partial placenta previa that they think it may prove of great assistance in such cases, as it aids in arresting the tendency to hemorrhage.

Brammer reports his experience with it in twelve cases of which he gives the details. He says that when all goes well the obstetrician feels that his dreams are being realized, but that the action of the extract is irregular and it may induce such violent contractions as to endanger the fetus. The contractions may become so violent that a little chloroform may be needed. These and other reasons make it necessary for the physician to remain with the patient for at least an hour afterward. The only contraindications seem to be an abnormally high blood pressure from arteriosclerosis or nephritis, and possibly a tendency to nervousness or hysteria as these may magnify the influence on the uterus and lead to too violent contractions.

Fischer at the Wuerzburg clinic gave the extract during labor to strengthen the pains in thirty cases. In twenty-four of these the extract was given during the first stage and in six in the second stage. The results are given in a table. The author states that the further advanced the labor at the time of the first injection, the better the action of the drug.. The shortening of all the stages of labor was marked. Postpartum hemorrhage was not prevented and seems to have been frequent as nine cases are mentioned. Most of these were of moderate severity. As a rule the hemorrhage followed promptly after expulsion of the placenta. In the nine cases the pains had been strong, with tendency to relax between. In two cases hemorrhage occurred before expulsion and the latter had to be effected manually.

Humpstone quotes Bondy, Gottfried and others in the literature, who had excellent results. He has used the extract in sixty-four cases, giving 0.4 gram (4 c.c. of the Parke

Davis preparation) as the initial dose, intramuscularly, and repeats if there are no results. For induction of labor, results are negative, but in the latter part of the first stage and in the second stage where there is inertia, brilliant results can be obtained. He believes that the remedy has a definite place in obstetric therapeutics, and is chiefly indicated in inertia uteri, postpartum hemorrhage, Cesarean section, and in the prevention and treatment of shock. He has never seen an unhappy result in mother or child, and believes there is no toxicity with any dose.

It is marvelous to note the change from weak, inefficient contractions to strong hard rhythmic pains. The extract may be most conveniently obtained in the form of vaporoles or ampoules each containing 1 c.c., from the Burroughs, Welcome Co., and Parke, Davis & Co. W .B. G.

II.—PUERPERAL INFECTION.

Broadhead claims that the mortality from puerperal fever in hospitals is gradually decreasing, but in private practice the mortality as well as the morbidity is not much better than it was several years ago.

The most striking evidence of the value of modern aseptic and antiseptic methods is afforded by a statement of the mortality statistics published by some of the maternity hospitals in various parts of the world.

In the York Road Hospital 8,373 deliveries occurred in sixteen years without a death from infection.

At the Rotunda Hospital in Dublin out of 2,060 patients delivered three deaths occured. At the Clinique Baudeloque in Paris in 15,000 deliveries the death rate from infection was .09 per cent.

At Johns Hopkins Hospital the mortality is 1.1 per cent. while von Herff at Basle shows 6,000 cases without a death. Although this list could be extended indefinitely, it is enough to show the results under modern treatment.

Compare now the death rate of cases in private practice, which is nearly as large as it ever was.

Some figures published by Kroehne are very instructive.

In an analysis of 1,850,000 deliveries in Prussia there were 7,893 cases of infection, and of these 2,826 died, the relation of mortality to morbidity thus being 35 per cent.

Polak says: "In my experience the high mortality, and especially the morbidity, in puerperal sepsis is produced by medical men, and is due to insufficient disinfection of hands and the patient, together with a tendency to undertake operative delivery, often in the absence of any absolute indication, before complete dilatation of the passages is obtained.

The gravity of any outside interference in a delivery cannot be too strongly emphasized.

Lea states that 40 per cent. of fatal cases show that some operative procedure has been attempted by the physician in charge.

And yet the blame is not to be laid at the door of the physician in charge. In foreign countries and among the foreign population of our own large cities perhaps 60 per cent. of the deliveries are attended by midwives, who are usually both ignorant and careless.

On the other hand, even where physicians are in attendance, the ignorance and carelessness of the patients themselves are all-potent factors in producing infection. Often bedlinen and clothing are dirty, the house often unsanitary, and the convenience for aseptic measures lacking.

Under such circumstances it is impossible to control the details essential to the puerperal period, and yet if anything goes wrong it is the physician who has to bear the odium and incur all the responsibility.

The marvel is in this class of practice, that the mortality is as small as it is.

E. F. K.

III.—X-RAY IN OBSTETRICS.

X-ray skiagraphs will now demonstrate the foetus in utero as early as the fourth month and the steroscopic radiographs will show the shape and size of the pelvis, thereby helping very considerably in diagnosing the possibility of mechanical difficulties in labor, gross deformities, distortions and narrowing of the pelvic outlet, also the larger part of the lumen of the pelvis, twin pregnancies could be determined and in the question of illegitimacy when an abdominal examination could not be suggested or permitted, the X-ray would discover the foetus and make a diagnosis positive after the fourth month. An extra uterine or tubular pregnancy could not be diagnosed as such.

The diagnosis between a normal pregnancy and hydatid mole, a lithopedion or calcified fibroid would show well and before every Caesarean section it would be of infinite value both for determining the pelvic shape and condition of the mother and the position of the foetus, and any abnormalities if present.

A differential diagnosis between rupture of the pubic joint and softening and relaxation could be made by this means and the radiograph would determine between polyneuritis, paraplegia and pelvic bone disease.

After the sixth month gross fetal deformities, such as hydrocephalus, anencephalus, double monsters, etc., would be readily discernible. E. F. K.

IV.—RUBBER GLOVES VIA OBSTETRICAL PRACTICE.

Sterilized rubber gloves will be found useful in obstetrical practice for making examinations especially when the hands have recently had to do with septic cases, or when the means for a chemical sterilization are not at hand.

No ordinary obstetrician or general practitioner who is at all doubtful concerning his personal asepsis, is justified in attending women in confinement without utilizing this simple and effective precaution.

I would strongly urge that we all adopt the rubber glove as a routine measure in confinement just as the surgeons have adopted the rubber glove in surgery. E. F. K.

V.—POST-PARTUM DOUCHE.

When few or no vaginal examinations have been made, the post-partum douche should be omitted.

It may be said to carry a risk of infection with it, but not to the same extent as the digital vaginal examination.

In intelligent hands irrigations are practically free from danger.

It certainly, in my experience adds to the comfort and safety of the patient; 1st, by causing the uterus and vagina to expell retained clots; 2nd, by setting up firm uterine contractions which prevent hemorrhage and the warmth lessens the pains of any small laceration and stretching to which the vagina has been subjected.

An intra-uterine douche is given only when the hand or instruments have been introduced into the uterus, or when there is other reason to suspect the possibility of intrauterine sepsis. E. F. K.

VI.—VACCINES IN PUERPERAL INFECTION.

My experience convinces me that while it is a mistake to imagine that we have a panacea for all infections in bacterial vaccines, to the exclusion of surgical procedures and general supportive measures, vaccine therapy has a place and serves a distinct purpose as an adjunct to the established modes of treatment.

Most can be expected from bacterial vaccines when the process is local.

Autogenous vaccines of a single strain have not given very reliable reactions. They are less likely to effect a defense than when a vaccine of polyvalent strain is used. Here the results have been fairly good.

The mixed vaccines or bacterins put out by reliable laboratories have given far better results than when a single strain was used.

E. F. K.

VII.—SHOULD THE CUTETTE BE USED FOR EMPTYING A UTERUS OF RETAINED PRODUCTS OF CONCEPTION CAUSING INFECTION?

In spite of the repeated warnings of those most experienced in its use, and who undertake the use of it with fear and hesitation, yet every tyro is confident that he can use it with the boldness and skill of an expert and hesitates not "to rush in where angels fear to tread."

An important distinction must be made in the consideration of this question between infections occurring as a result of abortion in the early months of pregnancy and infections after labor at or near full term.

After abortion curettement is not dangerous if done with proper skill but after labor at or near full term the curett is a dangerous instrument and is more injurious than useful.

E. F. K.

PROCEEDINGS OF ANNUAL BUSINESS MEETING OF THE JEFFERSON COUNTY MEDICAL SOCIETY, DECEMBER 23, 1912.

The 194th State Meeting being the annual meeting for the election of officers, etc., was called to order by the President, Dr. Edward Speidel, on Monday evening, December 23rd, 1912.

Minutes of previous meeting read and approved.

The Secretary read a letter from Dr. Arthur T. McCormack, Secretary of the State Society, stating that while there was some question as to the legality of the increase in dues vetoed by the House of Delegates at the annual meeting in Louisville, still as the association really needed the $3.00 per capita, he hoped that the Jefferson County Medical Society would collect that amount from each member for State dues. Moved by Dr. Dunning S. Wilson that the matter be referred to the Executive Committee and a report made at the next meeting. So ordered.

REPORTS OF COMMITTEES.

Report of the Secretary, by Dr. A. C. L. Percefull.

Report of the Treasurer, by Dr. C. H. Harris.

Report of the Executive Committee, by Dr. Jno. J. Moren, Chairman.

Report of the Membership Committee, by W. C. Dugan, Chairman.

Report of the Program Committee, by Dr. Harry J. Phillips, Chairman.

Report of the Clinical Cases and Specimens Committee, by Bernard J. Asman, Chairman.

Report of the Milk Commission, by J. Rowan Morrison, Secretary.

Report of the Library Board, by R. Lindsay Ireland, Chairman.

Moved by Dr. Sherrill that the president and other officers of the society, as well as all of the committees be extended a vote of thanks for their very efficient work throughout the year.

The president announced that the next order of business would be the election of officers, and called for the nominations for president. The following nominations were made:

Dunning S. Wilson, Curran Pope, C. H. Harris, W. A. Jenkins.

Drs. Charles Farmer, J. B. Lukins, Jethra Hancock, M. Casper were appointed tellers. It was moved that the two lowest men on the first ballot be dropped and the balloting proceeded with. After the second ballot the tellers announced the following result: Dunning S. Wilson, 66; Curran Pope, 54.

Dr. Wilson, having received the majority of votes cast, was declared duly elected president for the ensuing year.

Nominations for Vice President were then called for and th efollowing nominations were made:

Harry J. Phillips, W. B. Owen, Chas. Farmer, Guy P. Grigsby, Leon L. Solomon.

After the first ballot, the tellers announced the following result: Dr. Phillips, 47; Dr. Owen, 34; Dr. Farmer, 29; Dr. Solomon, 29; Dr. Grigsby, 37.

Upon putting the question to a viva voce vote, Dr. Phillips was declared elected first vice president, and Dr. Grigsby, second vice president for the ensuing year.

Nominations for Treasurer were then called for and the following names were placed in nomination:

E. L. Henderson, A. D. Willmoth ,J. T. Dunn.

The names of Drs. Willmoth and Dunn were withdrawn and Dr. Henderson was unanimously elected.

Nominations for the Judicial Council were next called for and the following nominated:

Bernard Asman, W. T. Bruner, S. C. McCoy, J. Hunter Peak, W. B. Owen.

It was moved by Dr. Peak that the two names receiving the highest number of votes on the first ballot be declared elected. Upon receiving the report of the tellers, the following were declared elected to serve for the period of three years each: W. T. Bruner, J. Hunter Peak.

A free will offering started by Oscar W. Doyle resulted in the sum of $4.45 which was given to the janitors and elevator boys of the Atherton Building as a Christmas present. A second free will offering resulted in the sum of $5.65, which was voted to the Children's Free Hospital.

The Society the nadjourned.

A. C. L. PERCEFULL, Secretary.

SECRETARY'S REPORT.

Louisville, Ky., December 23, 1912.

Mr. President and Members of the Jefferson County Medical Society:

While there have been other reports in the past years that have shown a greater membership, it gives me pleasure to make this report because the society is in a better condition to-day, in every way, than it has been for several years; perfect harmony prevailing, no faction, out of debt, money in the treasury, a clean, enthusiastic membership with bright prospects for the future.

In the beginning, your secretary wishes to thank all the officers and committees and other membership in general for their cooperation and response to duty which has been responsible for the excellent condition of the society.

Scientific Work.

Under this head we will include the publication of the Jefferson County Number of the Kentucky Medical Journal.

Your Program Committee has done excellent work; has had material in hands of secretary so that without a single exception, your program has reached you in time. They have also used discretion in getting up the program, including symposia, etc., and altogether the scientific department is of the very highest type.

The Jefferson County Journal, of which you have received 12 copies this year, is something of which the society is justly proud, it being the only society in the State, save one, that has its own publication and does not cost the society one penny, thanks to the business editor, Virgil E. Simpson, for his untiring efforts to secure advertisements for same, which pay the expenses of publishing the Journal.

Financial and Business.

The society should breathe a breath of relief because its financial and business department has been so managed that it is for the first time in several years, free from debt, and its members were not called upon to make up a deficit. The affairs have been managed on a business basis, all bills paid promptly when due.

Last October the Jefferson County Medical Society entertained the Kentucky State Medical Association in such a manner that compliments and congratulations came in from all over the State. Said meeting was the largest and best in the history of the K. S. M. A., which we think is partly due to the fact that your committee was able to secure Dr. Powell's Church as a meeting place. From the entertainment fund, which was so willingly and liberally subscribed to by th emembers, there remained about $300.00 which was given to the society as a Sinking Fund, which should also make the society feel some relief from future emergencies.

In connection with the management of the society your secretary wishes to thank Mr. H. S. Smith our reporter, and Miss Goff, our new Librarian, for their earnest and untiring efforts to help put the society and library on a sound basis and in good working order.

Public Policies.

January 15, 1912.—Dr. Gaylord C. Hall: Resolution condemning Optometry Bill. Passed. Copy sent to committee, having bill in hand.

February 12, 1912.—Mr. Bertelkamp, Vice-President of N. R. D. A and Chairman of Propaganda Committee, delivered an address on U. S. P and N. F. Propaganda, in an effort to bring about a more perfect understanding between the ethical drugist and the ethical doctor.

February 19, 1912.—Dr. W. Ed Grant, introduced resolutions condemning the Knight autobill as being unjust and drastic and copy to be sent to committee having charge of same.

March 18, 1912.—Dr. V. E. Simpson, introduced resolution condemning the bill passed by the legislature in regard to tuberculin testing of cattle. Copy sent to Governor asking him to veto same. Vetoed.

May 6, 1912.—Dr. D. S. Wilson introduced resolution providing for the creation of a Public Service Committee, which was referred to Executive Committee, which committe recommended that this be made as part duty of Judicial Council. Recommendation adopted.

May 20, 1912.—Dr. G. C. Hall offered resolution indorsing the Owen bill creating a National Board of Health. Carried and copy sent to House Committee.

June 10, 12.—Motion made and carried for Committee to be appointed to act with Commercial Club upon all matters pertaining to Public Health, etc.

September 9, 1912.—Dr. Herbert L. Harries, of Louisville Lighting Co., demonstrated the working of the "Pulmotor," which instrument is at the disposal of the profession and public free of charge at any time, day or night.

September 23, 1912.—Dr. V. E. Simpson moved that a committee be appointed to confer to improve telephone service. Committee appointed. Expect a report to-night.

November 21 ,1912.—At request of Anti-Tuberculosis Association a committee was appointed to confer with a committee from said association, looking toward the formulation and enactment of additional sanitary laws to protect the public.

Hall and Library.

The hall is leased to the Engineers and Architects' Club until the close of Society's lease.

Lease made with the Louisville Theosophical Society (for Sunday nights) as long as society's lease lasts.

Aside from the above leases there are several clubs and societies who meet here regularly.

In March the Circulating Branch of Library was established.

Library now in charge of Miss Goff, who is rapidly cataloguing the books.

Hall has had a new coat of paint, floors refinished.

The society is indebted to Mr. H. S. Smith for this source of income, for it was through his efforts that the hall has been rented.

Officers and Commtitees.

Officers, 5; Executive Committee, 6; Membership Committee, 3; Judicial Council, 6; Program Committee, 3; Clinical Cases and Specimens, 2; Library, 4; Milk ommittee, 5; Editorial Committee Reporter, 1, Librarian, 1.

Meeting sand Work Done.

Meetings, 39; Present, 75, 2,925; Essays, 36; Addresses by Non-Members, 4; Patients exhibited, 22; Cases Reported, 127; Specimens, 70; Discussions, 449.

Membership.

No. at close of 1911, 200; No. elected in 1912, 70; New by Demit, 1912, 3; Total, 273. Lost by Delinquency, 1912, 24; Lost by Demit, 1912, 7; Lost by Death, 1912, 0. Total, 31. Close of 1912, 242; Close of 1911, 200; Net gain, 42.

Your secretary desires to submit a few recommendations as follows:

First. A larger membership committee and a special campaign early in the year 1913, with a social session sometime early.

Second. In selecting committees, the proposed ones be consulted and his duties made known and asked before appointment if he will discharge said duties and appoint only those who are willing and fitted to perform the same.

Third. That secretary be empowered to purchase a suitable filing cabinet so that the correspondence, etc., may be kept in a more systematic order.

Respectfully submitted,
A. C. L. PERCEFULL, Secretary

REPORT OF TREASURER, 1912.

Receipts, $3,469.68.

Balance from Dr. Leavell	$ 14.43
Dues	2,945.00
Hall rent, miscellaneous	510.25
Total	$3,469.68

Disbursements, $3,318.36.

Rent and Stenographer	$2,394.65
State dues	600.00
Miscellaneous	323.71
Total	$3,318.36
Balance on hand	$ 151.32

To balance with Voucher Book, Dec. 31, 1912.

Dues paid in 1912 for 1913	$ 18.00
Net balance	$ 133.32

It will be observed that there has been a radical change in the method of keeping the Society's accounts. Heretofore, the society had no permanent record or itemized account of its expenditures in any way that could be quickly found. The present method of disbursement is done by the voucher method. Notice the blank vouchers, submitted, which is the form of check voucher and itemized account for the purpose for which the check was given, which must be O. K'd by the secretary before the treasurer's check is bankable, as the bank has been instructed that vouchers only endorsed by the secretary, signed by the treasurer, can be honored.

It will be further observed that the society is not indebted to any one for any amount, whatever. All the bills have been paid up to December 31, 1912. This has been accomplished by the determination on the part of the officers, subletting the hall and the collection of dues. It has been a very easy matter to collect the dues. I have found the boys generally willing to pay when reminded of it, and, indeed, one member Dr. Windell, paid his dues twice, necessitating my returning $12 to him. Some few members, finding it inconvenient to pay their $12 at once, the treasurer accepted part payment at any time, and when one-half of their dues were paid, he immediately paid the State Society for their membership in that Society and their Medical Defense Fee, thereby keeping them in good standing.

We have rented the hall only to those whom we knew were respectable and have jealously guarded this reputation for being the place where societies and parties could congregate with impunity.

It will be noticed in this report that we deducted amount received on last year's deficit and that the society is self-sustaining, as we have a balance of $133.32 to turn over to the incoming treasurer. Every bill has been promptly paid on the first of each month, which has sustained the society's reputation for promptly settling its obligations.

Without presuming to dictate, the treasurer desires to recommend to the society or to its newly elected treasurer, the method now in use or some other, equally reliable, in order that the society can keep on file complete records of all of its financial transactions. This is not only a protection to the society, but a protection to the treasurer as well. Without boasting, this is the first year that the society has found itself without a deficit at the end of the term, having had the first year $1,350 deficit; the second year $770 deficit; and the third year $600 deficit. This is said not in any spirit of criticism of the former officers, but is the result perhaps of a little more attention to business and a better cooperation of its members.

The treasurer desires to recommend to the society that the shelves in the auditorium be covered with curtains in order to protect the books from dust and misplacement.

It has been noticed that when we sublet the hall for dances, that the journals are often used as fans and in that way the serial of numbers are interrupted. It requires a good deal of work on the part of the librarian to rearrange these books and keep them in order. It would also be a help in renting the hall, as a great many object to the unsightly appearance of the book shelves. This can be done with a very small expenditure, probably $12 or $15.

The treasurer desires to close his report with the statement that the services of Mr. Smith, who has much to do with the renting of the hall and whose help in so many ways has been of incalculable value to the present officers and the society as a whole.

C. H. HARRIS ,Treasurer.

REPORT OF EXECUTIVE COMMITTEE.

Practically, the only thing of importance that has come to the committee during the past year, has been the resignation of Mr. Smith as Librarian and the engagement of Miss Annie L. Goff in that capacity, which has enabled us to materially reduce the total compensation paid for these services.

Your committee has audited the books of the treasurer for the past year and found them to be accurately and properly kept.

Acting under authority, vested in it by the constitution, your committee begs to announce that it has fixed the dues for the ensuing year at $12.00.

I would say as a matter of information for the society that the Cartledge Memorial Fund, which is being raised as an endowment for the library has now reached the sum of $3,000, and in all probability, considerably more than this will be obtained. It is hoped that it can be turned over to the society in the course of the next month or two.

Respectfully submitted,
JNO. J. MOREN, Chairman,
W. F. BOGGESS,
C. G. FORSEE.

REPORT OF THE LIBRARY COMMITTEE.

To the President and Members of the Jefferson County Medical Society:

Your Library Committee begs to submit the following as its annual report for 1912. We are glad to report that the library is progressively being more used and appreciated and yet its far reaching potentialities as an educational factor should be more generally utilized. Its very complete file of journals as well as its bound volumes of past numbers, especially being read by members of the society, and to some extent those who are not affiliated with the society, but who should be, which we are glad to have them do. Yet in our report, as our predecessors have done, we wish to emphasize the fact of there being such a large collection of medical periodicals especially, which we would like for our members to contract the habit of making use of extensively.

We have from time to time published a list of the periodicals on our shelves in the monthly program so that each member may have before him at all times for ready reference what could be found on your shelves.

We separately list those periodicals and books donated by members of the society together with names of donors, to whom we as the committee and in the name of the society beg to express our sincere thanks and appreciation and trust that the same phalanthropic spirit that prompted them to make this contribution will induce them to continue same.

Contributors For the Year. (Books).

Contributors.	No. of Vols.
Mrs. T. C. Evans	84
Curran Pope	10
Richard B. Gilbert	41
H. E. Tuley	25
Mrs. Wm. Bailey	14
Total	174

Retail Druggists' Association—U. S. Dispensory U. S. Pharmacopeia.

Periodicals Donated By Members.

Nome of Periodical.	Donated by
The Lancet	John J. Moren
The British Medical	Cuthbert Thompson
The American Journal of Gastro-Enterology	Chas. G. Lucas
Brain—A Journal of Neurology	Curran Pope
The Archives of Internal Medicine	David C. Morton

Exchange Periodicals Donated by Louisville Monthly Journal of Medicine and Surgery—Drs. H. H. Grant and H. E .Tuley, Ed.

Albany Medical Annals. Boston Medical and Surgical Journal, Buffalo Medical Journal, Bulletin of the Johns Hopkins Hospital, California State Journal of Medicine, The Canadian Practitioner and Review, The Chicago Medical Times, The Cleveland Medical Journal, The Eclectic Medical Gleaner, Gaillard's Southern Medicine, Gazette Medicale de Paris, The Physician, Southern Clinic, Vermont Medical Monthly, The Western Medical News, The Wisconsin Medical Journal, Medical Council, Medical Era, Medical Sentinel, New England Medical Monthly, Oklahoma Medical News and Journal, The Journal of Ophthalmology and Oto-Laryngology, The Polyclinic, Practical Medicine, The Providence Medical Journal, The St. Louis Medical Review, The American Journal of Urology, St. Paul Medical Journal, Texas Courier Record of Medicine, The Southern Medical Journal, Archives of Pediatrics, Annals of Surgery, International Journa lof Surgery, The Journal of the Kansas Medical Society, Maryland Medical Journal, The Medical Fortnightly, The Medical Herald, The Medical Review of Reviews, New Orleans Medical and Surgical Journal, Post Graduate, Surgery, Gynecology and Obstetrics, North West Medicine.

Periodicals Donated by Publishers.

The American Journal of Clinical Medicine, American Medicine, The Antiseptic, Atlanta Journal Record of Medicine, Bulletin of the Lying-in of the City of New York, The Canadian Medical Association Journal, Charlotte Medical Journal, The Chicago Medical Recorder, Denver Medical Journal and Utah Medical Journal, Dominion Medical Monthly, Interstate Medical Journal, The Journal of the American Medical Association, The Alumni Register, The Journal of the Arkansas Medical Society, The Journal of Cutaneous Diseases, The Journal of Michigan State Medical Society, Oklahoma State Medical Association, South Carolina State Medical Association, Tennessee State Medical Association, Kentucky Medical Journal, New England Medical Gazette, The Military Surgeon, Nashville Journal of Medicine and Surgery, New Mexico Medical Journal, The Ohio State Medical Journal, The Dominion Journal of Medicine and Surgery, The Optical Journal and Review, Memphis Medical Monthly, The Proctologist, North Western University Bulletin, The Railway Surgeon, The Railway Surgical Journal, United States Naval Medical Bulletin, Yale Medical Journal, Weekly Bulletin St. Louis Medical Society, L'Union Medicale du Canada, Long Island Medical Journal, Studies —The Rockefeller Institute for Medical Research, Virginia Medical Semi-Monthly, Washington Medical Annals, Wisconsin Medical Recorder, Advanced Therapeutics, American Journal of Obstetrics. The American Journal of Orthopedic Surgery, The Journal of the Missouri State Medical Association, The Journal of the Out Door Life, The Lancet-Clinic, The Louisville Monthly Journal of Medicine and Surgery, New York State Journal of Medicine, Monthly Cyclopedia.

Journals Paid for by Library.

The Journal of Experimental Medicine, The Journal of Infectious Diseases.

During the year the committee has put into operation a Circulating Library, membership in which subsidiary organization can be secured by any member of this society upon payment of annual dues to the Circulating Library. Rules have been formulated regulating this organization, whose books are on the shelves of your library, subject to the use of any member of this society.

We heartily commend this growing feature of the library to all, for by its growth we add valuable modern books to the general library.

Increased shelving facilities must be provided before any intelligent work can be done in the way of rearranging and card indexing the library. Under the present situation, every classification is filled to its utmost capacity; therefore, when new books are added to the library they can not be classified and placed in their proper location, but must be dumped on the floor of the meeting room, or wherever we have a little blank space, and there left. One objection to this is that everything that we put into the meeting room lessens, by just that much, its desirability for dances, meetings of societies, etc., which during the present year, has proved a very gratifying source of revenue,

$503.00 having been collected therefrom. I would suggest that unless some better means of taking care of donations is provided, contributions should be discouraged during the present year, at the end of which it is hoped that, if the contemplated change of the society's headquarters is realized, the library will be much better taken care of in the way of space than at the present time.

In the past few months considerable work has been done in cataloguing and card indexing the volumes in the library room proper, between three and five hundred having been catalogued. At this rate it will not be many months before the collection in the main library room will be finished, but donations which have been made during the past two years must remain piled up until more shelf room is secured.

During the year past, the library has had no general purpose fund, every donation having been made for specified purpose, such as the subscriptions to journals, bindings, etc. Feeling that we have provided a gratifying list of periodicals and hoping that soon the society will have some funds to place at the disposal of the board, we respectfully recommend that such be done at the earliest opportunity and that it be expended principally in completing the classification and catalogueing of the books now on hand and for this particular work we recommend an experienced librarian.

We further recommend that remaining available funds if such exist, be used in the binding periodicals and acquiring of new books at the discretion of the committee.

Financial Statement.

Receipts.

Jan. 20, 1912. B. F. Zimmerman, (Check from)	$6.00
Feb. 16, 1912 R. L. Ireland, (Last year	6.00
Mch. 9, 1912 David Morton (Archives—Int. Med. & binding same	4.00
Apr. 15, 1912 Dr. Horine (Sale of duplicates)	3.00
July 5, 1912 Dunning S. Wilson (1911 Subscription)	12.00
	$31.50

Disbursements.

Mch. 7. A .M. A. (Archives Internal Medicine)	$3.00
Mch. 22. Stamp—H. E. Tuley—addition to Library—Mochler Mfg. Co.	.60
Mch. 22. Journal Infectious Diseases	5.00
July 5. Journal Experimental Medicine	5.00
	$13.50
Balance	$17.90

Respectfully submitted,
LIBRARY COMMITTEE,
R. LINDSAY IRELAND Chairman,
JETHRA HANCOCK,
IRVIN LINDENBERGER,
J. A. O. BRENNAN.

REPORT OF THE PROGRAM COMMITTEE.

Mr. President and Members of the Jefferson County Medical Society:

Dr. Leavell, Chairman of the Program Committee, has requested me to submit a report tonight for our Committee. This is to me a pleasant task because there is always pleasure in feeling that one has endeavored to do one's duty.

It has been the object of the Program Committee to place befor ethis society essays that are at once instructive and entertaining. Realizing that the members of this society have a wide diversity of interests, because its membership is composed of men engaged in the practice of every branch of medicine, we have striven to place before you night after night subjects that would interest all. To this end our essays have embraced papers from the writings and experiences of the surgeon, the oculist, the aurist, the obstetrician, the pediatrician, the dermatologist, the gynecologist, the bacteriologist, the microscopist, the genito-urinary and rectal specialists, the neuroligist, and lastly but by no means the least, that bulwark of our profession, the general practitioner.

If we have succeeded in placing before you papers full of thought and instruction, we ask but your approval, because the credit does not belong to this committee alone, but should be shared with those who have presented the subjects.

We appreciate the assistance and cooperation of the members of the society, who have done much to lighten the work of this committee and make possible the splendid work of the year.

We are highly gratified at the confidence our President, Dr. Speidel, has placed in the Program Committee and we commend his plan of non-interference. An active and painstaking Program Committee can accomplish much more when unhampered by dictation and restriction.

It has been the plan of this committee to permit each essayist to select his own subject and we have offered suggestions only when requested to do so.

A number of excellent papers have been read this year by members who did not think themselves equal to the task. The Program Committee has always encouraged such members, pointing out that while the presentation of essays is not compulsory, yet the society expects every member to do his duty.

It is also pleasing to note that many members have taken part in the discussions before the society this year, who never before have done so. This committee wishes to convey its thanks to those members who have read papers and to those who have taken part in the discussion. Free, gentlemanly, scholarly and scientific discussion is invited at all times upon all subjects before this society.

We urge those members who are restrained from taking an active part by timidity, nervousness, etc., to throw off such restraint. After the first effort that timid feeling will vanish and they will be both pleased and surprised at their own ability.

This report is respectfully submitted and is signed by the Program Committee,

HUGH N. LEAVELL,
HARRY J. PHILLIPS,
H. M. RUBEL.

REPORT OF MEMBERSHIP COMMITTEE.

The secretary has practically made a report for the Membership Committee and my report will consist chiefly in the recommendation that the Membership Committee for the ensuing year be increased, to include one member for each ward in the city. This suggestion was made by the secretary and I think it is a very good one. As now constituted the Membership Committee is too small. This is a large city and there is a great number of men to be visited and this should be done very early, if possible, during the month of January, as that is the time in which new members are most readily secured. If this recommendation is adopted and each member of the Membership Committee will devote some portion of his time early in the year to the work, I do not see that there will be any difficulty in increasing our membership to at least 300.

During the first part of this year your committee found it comparatively easy to secure new members, but after the first few months it was very difficult indeed.

Respectfully submitted,
W. C. DUGAN, Chairman,
J. M. MORRIS,
J. B. LUKINS.

Electricity in Enemas.—Peixoto applies Boudet's method of sending the faradic current through the body from an electrode in the back to one on the abdomen after a saline enema has been given, to be retained during the sitting. He has found this method useful in cases of intestinal obstruction when it can be applied early, but if the obstruction has lasted long enough to do serious damage the electric enema is directly contra-indicated as it may bring on a catastrophe. He reports the successful application of the measure to a woman in the ninth month of her fifth pregnancy with symptoms of ileus.

SOME PRACTICAL PUBLIC HEALTH WORK THAT WILL BE ATTEMPTED BY THE KENTUCKY PRESS ASSOCIATION.*

By Edward Shinnick,

(President Kentucky Press Asociation.)

Mr. President and Members of the Kentucky Medical Association:

Gentlemen:

I want to say in the outset that your invitation to say something on the subject: "Some Practical Public Health Work That Will Be Attempted By the Kentucky Press Association," that was assigned to me, is a highly appreciated compliment. It has been tritely said, that no movement can succeed no matter how beneficial its objects may be, unless publicity and arguments of the benefits that are to accrue therefrom, are placed before the people. The press wields an immense power, and even the most humble newspaper has an influence, and every editor I know, is willing, and anxious to lend his best efforts to the dissemination of knowledge of everything pertaining to the better physical health of those who read his paper.

For knowledge to be disseminated in reference to the public health, the newspaper man must depend upon men of your profession; men who have made the matter one of study and research. Statistics show to the amazement of all of us, the enormity of the ravages of what are termed preventable diseases, such as tuberculosis, typhoid fever, etc. Not one of us doubts the accuracy of the figures, and we stand appalled, but what can a lay man do to relieve the situation? The answer to this question lies with you gentlemen. The members of the Kentucky Press Association to a man, and I know all of them, are ready and willing to give space in their papers, to use their personal influence, and to contribute of their means, towards the furtherance of any movement that contemplates the improvement of public health.

No intelligent newspaper man, who has achieved even a modicum of success in his calling, will claim to know more of theology than the theologian, more of surgery than the surgeon, or more of the cause and cure of disease than the learned men of the medical profession. He may know how to conduct a newspaper successfully, but his ability to do this comes from experience and knowledge that has been obtained from others. There are no born newspaper men, and there are no born scientists. We have fake newspaper men. Not many, thank God, in Kentucky, and we have fake doctors. I have no idea how many, but every man here knows this to be true. Your object, as I understand it, is to eliminate the claims and practices of these from consideration.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

I wish to assure this Association that the Kentucky Press stands ready to do whatever practical health work it can find to do. You gentlemen, however, must blaze the way for us. Upon you depends the information and knowledge that should be imparted to the people. Tell us the facts and figures, and we will gladly publish them. Prepare your articles with the salient points emphasized, and we will gladly give publicity to them. The Kentucky Press stands ready to go hand in hand with the medical fraternity in every effort that may be made for a betterment of the public health, including the prevention and cure of diseases.

If I have failed to cover my case as explicitly as was expected, it is because of a lack of information as to just what is wanted.

I wish to say, however, in all earnestness, and with a knowledge of my brother newspaper men, that the Kentucky Press Association will gladly assist this Association in the furtherance of its aims and ends. This, as I conceive it, is the best practical health work the Press Association can do. We recognize your ability, and our inability, to talk intelligently on the subject at hand. Our Association will gladly be your mouthpiece. We are all heartily in accord with you in your desire to cure and prevent diseases and we will faithfully assist you in any way you may suggest. I speak authoritatively on this subject, and without hesitation, pledge the hearty support of the newspaper men of Kentucky.

BOOK REVIEWS

Sexual Impotence.—By Victor G. Vecki, M. D., Consulting Genito-Urinary Surgeon to the Mount Zion Hospital, San Francisco. Fourth edition ,enlarged. 12mo. of 394 pages. Cloth, $2.25 net. Philadelphia and London: W. B. Saunders Company, 1912.

The fourth edition of this book is in response to the demands of the profession. As such subjects are better understood the yare recognized as essential factors in medical practice and are being treated accordingly. Veki is one of our leading authorities on genito-urinary matters and this book is as omprehensive as any in our literature upon the important and little-studied subject of impotence.

COUNTY SOCIETY REPORTS

Barren—The Barren County Medical Society met in Glasgow on January 15, 1913, and was called to order by President Porter at 11 A. M.

Minutes of last meeting read and approved.

Members present: R. H. Porter, Botts, Honaker, Smock, Taylor, Jordan, Siddens, Miller, Howard, Palmore, Turner and Acton.

Moved and seconded that the Secretary buy a book to keep the records of the society in. Carried.

Moved and seconded that we elect three Censors as follows: R. H. Porter for 1 year; C. C. Howard for 2 years, and J. W. Acton for 3 years. Carried.

H. P. Honaker brought a man 34 years old before the society, suffering with a varicocele also of a very nervous temperament. After discussing the case at length it was thought best to put him on eliminants and good tonics and have a blood count made.

J. C. Jordan reported a case of a girl 9 or 10 years old with typhoid fever that he thought was complicated with central pneumonia. At the end of the third week the temperature dropped suddenly to 93.6 degrees; at this time the girl was unconscious. She recovered.

W. S. Smock reported a case of a man who had had a lick on the head seven years ago. Has suffered frequent headaches since. Within the last month became insane and was sent to the asylum. The question was whether the injury to the head had anything to do with the insanity. The case was freely discussed without any conclusion as to cause of insanity.

Afternoon session met at 1 P. M., with Vice President Howard in the chair.

W. S. Smock gave a very interesting talk on the "Gonococcus Vaccine," declaring it was out of the experimental stage.

J. M. Taylor gave a very interesting talk on the difference in vaccine and serum therapy.

H. P. Honaker and others gave interesting talks on the vaccines.

A. T. Botts gave a history of an unusual case he had treated. Very hard to say whether it was a cose of tonsillar abscess or diphtheria. The case recovered.

E. E. Palmore gave his experience with a similar case.

C. C. Turner gave in detail the management and treatment of a girl 20 years old who had had whooping cough and developed pneumonia in the right lung. Afterward developing same in left lung. She died on the seventh day. At the same time her sister had pneumnoai but recovered. All present agreed that Dr. Turner's management and treatment was ideal.

Moved and seconded that the Society dues remain at $3.00. Carried.

Moved that the President and Secretary prepare the program. Carried.

J. W. ACTON, Secretary.

Barren—The Barren County Medical Society met in the office of Dr. Botts in Glasgow, on December 16, 1912, and was called to order by President Smock at 11 A. M.

Minutes of last meeting were read and approved.

Members present: J. C. McCreary, Botts, Palmore, Taylor, Smock, Froedge, Turner, Honaker, Siddens, Porter, Howard, Miller and Acton.

The program as arranged last meeting was taken up and most of the subjects were discussed. The talks were short and to the point, it being evident that the profession here is taking more interest in the ''business side'' than formerly. No motions were made or resolutions passed, but it was evident that the sentiment prevailed that our hard-worked doctors should be better paid for their services—that the pithy speeches made will be as seed sown on good soil. The following officers were elected for the ensuing year:

President, R. H. Porter, Glasgow; Vice President, C. C. Howard, Glasgow; Secretary and Treasurer, J. W. Acton, Glasgow; Delegate, J. C. McCreary, Cave City.

Adjourned to meet January 15, 1913.

J. MORGAN TAYLOR, Secretary.

Christian—The Christian County Medical Society met in regular session Tuesday, January 21st in the Avalon, T. L. Metcalfe's new assembly hall, with President Stites presiding. The following physicians present: Stites, Sights, Stevens, Bell, Blakey, Barnes, Keith, Thomas, Southall, Watts, Lackey, Campbell, Brown, Barker, Donnelly, Gaither, Erkiletian, McGraw, Caudle, Harned, Backus, Rice, Gates, Jackson, Perkins and Sandbach.

The minutes of hte last meeting were read and approved.

The Secretary read a letter from the Southern Medical Association which was referred to the Board of Censors for consideration.

By a unanimous vote the State dues was raised from $2.50 to $3.00.

F. M. Brown moved that we accept Mr Metcalf's invitation and adopt the Avalon as our regular place of meeting, which was by a rising vote passed.

H. P. Sights invited the Society to meet with him at the Western State Hospital next month and the invitation was accepted with a rising vote of thanks.

H. P. Watts and **Dr. Barker** reported a case of ''Puerperal Sepsis'' in which they used the serum treatment.

H. P. Sights: The serum subject should receive careful attention. Am not an enthusiast of the treatment. Should not wait too long to begin it.

J. G. Gaither: Dose and frequency of dose all that is of importance. Literature no guide for it.

W. S. Sandbach reported a case of ''Microcephalus in a Child of Eighteen Months.'' Drs. Sights and Gaither both advised surgical procedure as the only hope.

D. H. Erkiletian read a very interesting paper on ''Intestional Ozstruction.''

H. P. Sights read a most interesting paper on ''Pellagra.''

Both papers were freely discussed by B. A. Caudle, D. A. Campbell, J. L. Barker, W. A. Lackey, J. G. Gaither, J. J. Backus, J. W. Stevens, Austin Bell, J. P. Keith, J. A. Southall and F. M. Stites.

By invitation the following druggists were present: Elmer Coates, L. E. Fowler, J. O. Cook, L. L. Elgin, M. E. Boyd and Maxye Blythe, and the Rev. Dr. Eshman.

A most sumptuous luncheon was served with Mr. Metcalf as host Rev. Eshman pronounced the invocation and the President spoke in praise of the Avalon and of the owner's princely hospitality. The meeting was a most notable one and in every respect enjoyable.

W. S. SANDBACH, Secretary.

Franklin—The Franklin County Medical Society met at 2:30 P. M., in the office of Drs. Williams & Mastin in regular esssion called especially to reorganize and rejuvinate th esociety. Present, A. T. Stewart, Armes, Montfort, Darnell, Patterson, Heilman, Minnish, Williams, Wilson and Mastin.

The regular date for election of officers for the year 1913, secret balloting resulted in the election of the following: L. T. Minish, President; W. Montfort, Vice President; U. V. Williams, Secretary and Treasurer; Delegate, U. V. Williams; Alternate, L. T. Minish. The term of office of these delegates will expire December, 1913, having been elected in December, 1911. Board of cancy. Censors to hold, U. V. Williams, 1 year; Censors, Dr. Patterson was elected to the va- J. W. Hill, 2 years; John Patterson, 3 years.

J. W. Wilson and A. T. Stewart were appointed a committee to arange the program for the meetings in 1913.

Reported for February 2nd, 1913, at 1 P. M., to hold social session with Dr. Armes at the Feeble Minded Institute from 1 to 4 P. M. to discuss the good of the society and report clinical cases and pathological specimens and general discussion.

U. V. WILLIAMS, Secretary.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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PRACTICE OF MEDICINE
W. F. BOGGESS

VOL. XI. BOWLING GREEN, KY., MARCH 1, 1913 No. 5

EDITORIAL.

BIRTH CERTIFICATES.

We have been requested to ask every physician doing obstetrical work in Kentucky to look over his records for 1912 and be sure that he has omitted no birth certificate. A joint investigation by the United States Government and State Board of Health will be begun in the near future, with a view to the acceptance of Kentucky birth certificates in the registration area. We trust that no members of this Association will be found delinquent as prompt prosecution will follow every omitted birth certificate. The medical profession of Kentucky is responsible for this law as it is in no other state. We are confident that 95% of the birth certificates have been properly registered and the other 5% must be before we will be satisfied. If you omitted a single birth certificate last year, please be sure to get it to your Registrar during the first week in March so that it can be properly tabulated. Failure to do this may cause you considerable humiliation in being called before the courts. This is a fair warning to the delinquent and if they fail to heed it, the JOURNAL's skirts are clear. Please be sure to have the baby's name correct.

CONGRATULATIONS.

The *Editor* had the privilege, in company with our State Registrar of Vital Statistics, Dr. W. L. Heizer, of attending a reorganization dinner given by Dr. E. Duff Burnett, of Anchorage, the Secretary of the Oldham County Medical Society. Practically all of the members were present at a feast delightful, both for the viands and the sociability. We congratulate the Oldham County Medical Society upon having Dr. Burnett for its Secretary, and we predict for it the most successful year in its existence.

A NEW ONE.

It is with considerable pride that we welcome the Leslie County Medical Society into the Kentucky State Medical Association. There are only two physicians in Leslie County, but two others in adjoining counties have gone in with them so as to get the required number and effect a county organization. Many societies with large multiples of the membership of this youngest one will do well to look to their laurels or they will be taken by newcomers. They are arranging to hold a series of meetings over the county where lectures will be delivered on Preventive Medicine, illustrated by the stereopticon. As soon as spring opens, a six weeks' Hookworm Dispensary will be held in this county. In this dispensary, we will have the cooperation of the Census Bureau, at Washington. During the summer, it is hoped to establish a floating hospital in the county for the treatment of trachoma cases. There are 119 other counties in Kentucky where the health conditions are just as bad as they are in Leslie. In no other one are there so few physicians and in no other one is the medical profession more nearly living up to its responsibilities as guardians of the public health than in the mountainous county of Leslie.

ANNUAL DUES.

This will be the last issue of the JOURNAL which will reach those who have not paid their annual dues for 1913, as the membership list will be revised on April 1st. We feel sure that our membership will recall that the KENTUCKY STATE MEDICAL ASSOCIATION is chartered; that we send each member his JOURNAL which actually costs more than twice the amount of the annual dues, and that in addition to this, those of them who are in good standing who are so unfortunate as to be unjustly accused of malpractice will be defended by this Association. Like every other organization which gives something for its dues, these must be paid promptly. If you have not already paid your dues, to your County Secretary for 1913, please do so as soon as you have finished reading this. Remember that you may pay either $3.00 or $2.50 for your State dues and you will have exactly the same privileges and protection. More than one-half the membership have paid the $3.00 dues. No greater tribute has ever been paid to the physicians of Kentucky than their voluntary and practically unanimous increase of their own dues.

THE SOUTHERN MEDICAL.

The Southern Medical Association, of which the Kentucky State Medical Association is a component part, honors our State by holding its next annual meeting in Lexington this fall. The Southern Medical Association is composed of the leading medical men of the Southern states. It is a thoroughly practical organization, constantly busying itself with the actual every day needs of the busy practitioner of this section, many of whose problems are peculiar to them. It is hoped that several hundred physicians are joining this Association on account of its meeting in our State, in addition to its present membership. If you desire to join, you should write to Dr. Seale Harris, Secretary, at Mobile, Alabama, and he will be glad to furnish you with membership blanks. Only those who are members of the Kentucky State Medical Association are eligible for membership in this organization.

A TRIBUTE TO MRS. ANDERSON.

The estimable wife of Dr. W. W. Anderson passed into that dreamless sleep that kisses down the eyelids still, January 10th, 1913.

The loved and loving wife, mother, sister and friend died where womanhood's morning almost touches Noon. This noble woman was a friend of the weak, the poor and the oppressed, and cheerfully gave alms. With loyal heart and purest hands, she faithfully discharged her duties in the home, the church and the social circle. She loved the natural and the beautiful, and was with music and flowers touched to tears.

She believed that happiness is the only good and love the only peace. The record of her generous life filled with noble deeds and kind acts runs like a vine around the memory of our dead. As an evidence of the esteem in which she was held by those who knew her best, and by those for whom she had done some loving service while living, she sleeps tonight beneath a wilderness of flowers.

ONE HUNDRED PER CENT.

Bath County reports, through its very effective secretary, Dr. H. J. Daily, that every physician practicing in the county is an active member in good standing in the county medical society. This result has not been attained by the doctors, each wondering why the other does not do something and in complaining about the lack of opportunity and progress in the county, but has been obtained because Dr. Daily is an effective secretary and because he has stimulated his associates in the profession and they have stimulated him to such a degree that they have a real county society, which is accomplishing so much that no individual physician can afford to be outside of it. If other county societies in the State will take to heart the correspondence extending over several years, which has secured these results in Bath County, it will not be a great while until every county society in Kentucky will have a hundred per cent. of the physicians enrolled.

THE NATURE OF HUNGER.

To no one is the sensation of hunger unknown. It is a common and moving feeling with almost everyone in health during the twenty-four hours. Up to the present time, it has generally been the accepted belief that we eat because we are hungry, and we are hungry because it is the cry of the body, to compensate for the waste that has taken place and to supply the body with fuel for its various functions and labors, and that the object of the food taken is to supply fresh material or haemic pabulum, in order that the tissues may be reconstructed and sufficient energy generated to maintain the activity of the human body. After full growth, in the healthy individual, health is best maintained then by pure food, properly prepared, properly eaten, at proper times and in which the input and the output will maintain an even and just balance of the nutritional needs of the body. Man, in the satisfaction of his hunger, does not, in reality eat because he is anxious to maintain nutritional equilibrium, or because of certain convictions he may have about metabolism, but in reality, because he experiences appetite and hunger. In a most interesting and instructive article, "A consideration of the Nature of Hunger," W. B. Cannon, *Popular Science Monthly,* undertakes to discover the essential underlying element that would answer the questions, why are we hungry? What makes us hungry, and why do we eat?

There is no gainsaying the fact that psychic elements enter a good deal into the question of appetite, and that this is frequently determined by sensations of taste and smell, as has been so beautifully demonstrated by Pawlow. We quote: "Among prosperous people, supplied with abundance of food, the appetite seems sufficient to insure for bodily needs and proper supply of nutriment. We eat because dinner is announced, because, by eating, we avoid unpleasant consequences, and because food is placed before us in delectable forms, and with tempting tastes and odors. Under less easy circumstances, however, the body needs are supplied through the much stronger and more insistent demands of hunger." Hunger and appetite are therefore widely different in physiological basis, in localization, and in psychic elements. Hunger may be satisfied while body still calls. "Who is still hungry when the tempting dessert is served and yet are there any who refuse it, pleading that they do not need it?" Indeed the cooperation of hunger and appetite is probably the reason for their being so frequently confused.

Cannon says that the peculiar dull ache or hungriness referred to the epigastrium, is the organism's first strong demand for food; and when the usual order is not obeyed, the sensation is likely to grow into a highly unfavorable pang of annoying, less definitely localized as it becomes more intense. "Besides the dull aching, however, and the lassitude, a drowsiness may appear, or faintness or violent headache, or irritability and restlessness, such that continued efforts in ordinary affairs become exceedingly difficult. That these states differ much with individuals—headache in one, and faintness in another, for example, indicates that they do not constitute the central effect of hunger, but are more or less constant accompaniments." From my personal standpoint, I am strongly inclined to agree with Guelpa, that the general symptoms that result from hunger, so-called abstinence symptoms, are the result of toxemia and that they can frequently and promptly be relieved by a number of methods directed toward the free opening of the emunctories. Cannon takes up the various theories and disposes of them in a clear-headed and rational way, notably the theory that hunger is a general sensation. He calls attention to the fact that hunger increases as time passes, but this is no reason for believing that it is due to, the serious encroachment on the store of food materials. In some clinical experiments that I have conducted, I have satisfied myself that free elimination through the skin, by baths, through the kidney by water drinking and free purgation, will do much after the first twenty-four hours to dissipate the feeling of hunger, as improbable as this may seem at first glance, and in fact it is a notorious fact proved by many of the professional fasters, and especially recorded by Lucianna, that after a certain time, hunger feelings vanish and do not return. Then again, hunger may be felt, though the stomach is full. In fact, it would be foreign to this editorial to go into detail all the reasons advanced against theory of general sensation, but it may be stated that insofar as the writer's opinion is concerned, Cannon disposes of the theory completely.

It is a notorious fact that body need may exist without hunger, for is it not true that metabolism and fever patients, the greatly augmented body substance is destroyed and the weight of the patient greatly reduced, and yet the sensation of hunger under these conditions of need is wholly lacking. Nor does the idea of the general sensation explain the quick onset and the periodicity of the sensations, for many people have noted that hunger is a sharp onset, that it is oftentimes intermittent and that it will frequently come and go.

Taking up some of the theories that hunger is of local origin, due to emptiness of the stomach, to the presence of hydrochloric acid in the empty stomach and to turgescence of the extract mucosa, all are successfully disposed of. Cannon then proceeds to take up what he considers to be the real cause of hunger, and that is muscular contractions of the stomach wall. He prepared a special apparatus, consisting of a rubber tube, introduced as far as the stomach, to the end of which was attached a soft rubber balloon. One of his students volunteered for the experiment and introduced the tube and balloon into the stomach until the oesophagus had become accustomed to its presence, the tracings were taken of the movements of the balloon, the ribs and the abdominal wall. It was observed that when the student, a Mr. Washburn, stated that he was hungry, powerful contractions of the stomach were invariably being registered. The register of hungry feelings were periodic and corresponded largely with his gastric contractions. "Almost invariably, however, the contraction reached its maximum before the record of the sensation was started. This fact may be recorded as evidence that the contraction produces the sensation. The contractions were about one-half minute in duration, and the intervals between varied from 30 to 90 seconds, with an average of about one minute. * * * * * Before hunger was experienced by Mr. Washburn, the recording apparatus revealed no signs of gastric activity. * * * * * The inability of the subject to control the contractions, eliminated the possibility of their being artifacts, perhaps induced by suggestion. The close relation of the contractions with hunger pangs, therefore clearly indicates that they are the real source of these pangs. * * * * * The occurrence of hunger at meal time is most natural, for as the likelihood of defecation indicates, the alimentary canal has habits, the activity occurs at the usual meal time, as the result of custom. By taking food regularly, at a definite hour in the evening for several days, a new hunger period can be established. * * * * * Boldireff observed that when his dogs were fatigued the contractions failed to appear; being too tired to eat, is therefore given a rational explanation, as is the inordinate hunger, which is a well known disturbance of certain neurotics. Hunger, then, in a work, is normally the signal that the stomach is contracted for action, the unpleasantness of hunger leads to eating, eating starts gastric secretion, distends the contracted organ, initiates the movements of gastric digestion and abolishes the sensation. Meanwhile pancreatic intestinal juices, as well as bile have been prepared in a duodenum to receive the oncoming chyme. The periodic activity of the alimentary canal in fasting, therefore, is not solely the source of hunger pangs, but is at the same time an exhibition in the digestive organs of readiness to promote attack on the food swallowed by the hungry animal."

To the thoughtful physician, the work and observations of Cannon point out and make plain many of the reasons why certain remedies, especially the so-called physiotherapeutic methods increase appetite and stimulate hunger. Its exercises and massage, by developing the muscular activity of the body along general lines, and the abdomen in particular, tend to bring about hunger in those who are without the sensation, and to regulate in more normal manner pathological manifestations of this normal physiological function. The various forms of electric modalities in like manner develop the muscular and contractile activities of the gastric and abdominal viscera, notably the galvanic and sinusoidal currents. In like manner, can be readily explained the marvelous appetites that come from the scientific and proper application of tonic hydrotherapy to the body in general and to the abdomen in particular, nor can it be forgotten that in the effect produced by these remedies, as well as by certain medicinal measures, are only a small tithe of the action upon the gastro-intestinal tract and the bodily functions in general.

CURRAN POPE.

SCIENTIFIC EDITORIALS.

UROLOGY.

The following are abstracts from the papers read in the Genito-Urinary Symposium before the Mississippi Valley Medical Association, held in Chicago, October 22, 23 and 24, 1912:

1. *The Urological Aspect of the Microscope as a Localizer of Disease.*—Dr. Carl Lewis Wheeler, of Lexington, made a plea for a more thorough miscroscopical examination of the urine, studying the urinary findings under higher magnifying power (500 diameters) with an effort towards differentiating the various epithelia and other features found in urinary sediment, saying in this way we might locate and diagnosticate pathological lesions along the urinary tract. All morbid processes occurring within the urogenital tract were marked by the presence of pus corpuscles, and the location was determined by the character of the epithelia found. Normally, the only epithelia found in the urine were of the flat variety, in small numbers, coming from the bladder, while in the female might be seen flat epithelia from the bladder and vagina. The presence of all flat epithelia was pathological. The diagnostic point in differentiating epithelia is absolute size, and the pus corpuscle was taken as a standard of comparison in differentiating the various smaller epithelia, such as coming from the convoluted and straight collecting tubules of the kidney, ureter, kidney pelvis and prostate. He reported numbers of cases in which the diagnoses were made from urinary findings alone, in the absence of any clinical history whatsoever, and the diagnosis being confirmed by cystoscopy, urethral catheterization, operation, or autopsy. The ordinary methods of the study of the urine under the microscope, beyond the detection of casts, were faulty and almost worthless, and his paper was offered as a defense of the Heitzmann School of Microscopical Urinary Diagnosis; for already, since the advent of ureteral catheterization, many authorities who had denounced Heitzmann's claims, had deemed it wise to slightly modify their opinions.

2. *Symptomatology and Pathology of Prostatic Hypertrophy.*—Dr. E. O. Smith, of Cincinnati said the symptoms of prostatic hypertrophy were due either directly or indirectly to a mechanical obstruction to the outflow of urine from the bladder. The prostate gland, located as it was around the proximal portion of the urethra and in very close relation to the bladder could but interfere with the normal urine channel when it underwent changes that disturbed these normal relations. Increase in size and shape of the prostate would necessarily produce a mechanical

change in the shape, length, or entrance into the urethra. Among the earliest changes noticed by the patient was the decrease of the force with which the urine was ejected. There was no projectile force that carried the urine away in a good stream. It was possible for a patient to have both a cord lesion and prostatic hypertrophy. This applied more particularly to cases that came during the early period of expected enlargement of the prostate.

As a result of the nature of the mechanical obstruction to the outflow of urine and the effect on the bladder, there was sooner or later a failure on the part of the bladder to completely empty itself, which was the beginning of residual urine. Acute, complete retention might come on suddenly without warning, following indiscretions on the part of the patient. From a prognostic viewpoint, probably the most important symptoms were those referable to the kidneys. The kidneys were affected either from back pressure, from infection, or both. Dilatation of the ureters and pelvis might follow long-continued obstruction to urinary outflow, thus making a pressure on the renal parenchyma. Resulting from this was a functional insufficiency of the kidneys. The quantity of urine might not be diminished but the urea and other products of elimination were below the normal. It had been his observation that a great many, in fact, a majority of patients troubled with prostatic hypertrophy suffered from marked mental depression. There were two general varieties of changes in the structure of the gland. One in which there was an increase in the so-called glandular part of this structure and the other when there was but little tumor mass with greatly increased amount of dense, tough, fibrous tissue. In the open dissection of the perineum, the first part of the gland met was the posterior lobe which must be cut through before the real hypertrophy was reached. This bit of anatomical relation might explain some of the difficulties encountered by those attempting the open dissection method for the first time. Unless one got the enucleating finger into the capsule, the line of cleavage would be missed and a very difficult task was made out of a comparatively simple one. The easiest place to find the line of cleavage was in the roof of the prostatic urethra.

3. *Pre and Post-Operative Treatment of Prostatectomy.*—Dr. William N. Wishard, of Indianapolis, said that the more discriminating use of urinary antiseptics had been suggested by gastric and renal irritation, following the prolonged use of large doses of urotropin. If renal elimination was good, as shown by urinary analysis, prolonged use of urinary antiseptics was not imperative. Where the urine was alkaline and offensive in odor, and pus present in considerable amount, it had seemed desirable to use urotropin for several days before operation, and to continue its use gradually for a few days afterwards. The average period of preparatory treatment required in the writer's cases, had occupied from one to two weeks, and while some cases had been operated upon earlier, others had been maintained upon preparatory treatment for a much longer period. Whether a suprapubic or perineal operation was performed, liability to post-operative hemorrhage was much influenced by the carefulness with which enucleation was done. In median perineal operations, the writer had found much advantage from the use of a solid metal inflow and outflow tube devised by his assistant, Dr. H. G. Hamer. If a two-way rubber tube was used, its walls should be as firm as possible, as pressure from packing within the wound and around the tube might occlude the outflow. On changing the dressing and removing the gauze packing the morning following operation, the metal tube above referred to was also removed and subsequently a single soft rubber drainage tube used. While incontinence might not follow suprapubic operations, a fistula might occur either after suprapubic or perineal prostatectomy. Careful and thorough excision of the cicatricial tissue and thorough curettment of the deeper portion of the fistulous tract followed by prompt closure in all the few cases of persistent fistula which the writer had observed after suprapubic or median perineal prostatectomy. Two cases of fistula had been referred to him where an inverted V-shaped incision and extraurethral enucleation had been done, and in one of these closure was secured, but in the other the fistula persisted and in both there was associated incontinence. Occasional occurrence of fistula, however, was not necessarily an argument against any form of enucleation. Permanent incontinence had not followed in any of the writer's cases operated by median perineal incision, although it had persisted for a greater or less length of time in some of them. Systematic and persistent use of dilatation of the prostatic urethra and vesical orifice with Kollmann's dilator had usually given prompt relief.

4. *The Operative Treatment of Prostatic Hypertrophy.*—Dr. Hugh Cabot, of Boston, said the object of prostatectomy was to remove the obstruction to urination with as little risk to life as possible, and as little damage to other structures and functions as may be. Only certain portions of the prostate were involved in the process known as hypertrophy. The prostate itself was compressed by the tumor and lay chiefly on the inferior and lateral aspects of the mass. The vesical

and urethral aspects of the prostate in hypertrophy were covered only by the mucous membrane. The ejaculatory ducts lay wholly behind the tumor which rarely, if ever, extended further forward than the posterior border of the verumontanum. The prostate might be attacked by two routes, the perineal or the suprapubic. If the lower route was chosen, two quite distinct methods of attack still remained, the intraurethral method of enucleation, and the transprostatic method, the operation of Young. Of the suprapubic operation there could hardly be important modification except in technical details as the attack was direct and head-on. It was useless to deny that the mortality of suprapubic prostatectomy was higher than that following the perineal operation. Briefly summarized the relative merits of the suprapubic and perineal operations in their present state of development seem to him to be these: The suprapubic route was the anatomically correct approach. It attacked the hypertrophied portion at the point where it could be reached with less destruction of tissue and with the greatest certainty of complete removal of the obstructing portion. It did less damage to other structures, interfered less with other functions and was followed by fewer complications. It was more certain to result in cure. The perineal operation showed at the present time a definitely lower mortality. It was a more difficult surgical procedure no matter what technic be selected. It was more likely to do damage to other structures and functions and was less certain to result in cure. Of the arious types of perineal operation that of Proust combining the prerectal incision with the intraurethral enucleation was best adapted for the uses of the average surgeon.

Carl Lewis Wheeler.

Experience with Induced Pneumothorax.—Keller's article fills seventy-six pages and gives the details of forty cases in which this method of treatment was applied, for pulmonary tuberculosis in thirty-five, bronchiectasia in three and pulmonary abscess in one. The advantages of the method were plainly evident in many cases, most strikingly in pulmonary processes with a cavity; excluding this focus by squeezing its walls together eliminates this source of toxin production and the patients take at once a remarkable turn for the better. A very favorable influence was also apparent in cases of purely infiltrative processes, even those due exclusively to pneumonia. He advocates the induced pneumothorax as far superior to all other measures at our command in such cases. The sound tissue is not destroyed by the process, its functioning is merely held in abeyance for a time. No unfavorable influence on the heart or vessels was suggested in any of his cases.

ANNUAL ORATION.

ADDRESS*

By John A. Witherspoon,

PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION.

Dr. Lewis S. McMurtry, of Louisville, in introducing Dr. Witherspoon, said:

Ladies and Gentlemens

It has been a custom in the Kentucky State Medical Association for many years to invite at each one of the annual sessions some distinguished member of the medical profession from without the State of Kentucky to address the association. Upon this occasion we have the pleasure of having for this honor a gentleman who needs no introduction to the members of the Kentucky State Medical Association, but for the information of those ladies and gentlemen who have honored us this evening with their presence, who are not members of the medical profession, it may be proper for me to state that he is advertised throughout this country as a man of very superior attainments in medicine; a professor in Vanderbilt University in our neighboring state of Tennessee; a practitioner of medicine who is recognized as an authority in the field in which he practices; a teacher of success and ability, and a gentleman who has always devoted himself to every movement, both state and national, that looks to the uplift of this profession.

It gives me great pleasure, ladies and gentlemen, to present to you Dr. John A. Witherspoon, of Nashville, President-Elect of the American Medical Association, who will now address you. (Applause).

ADDRESS BY DR. WITHERSPOON.

Mr. President, Ladies and Gentlemen:

First, let me express my appreciation of the invitation which makes it possible for me to be with you to-night. It was especially pleasing when I was notified by your committee that my talk was to be upon the lines in which I am especially interested. When it comes to the duty of the medical profession to the people upon whom they live, and whose concerted interests are felt in the welfare of each other, I can imagine no subject, especially at this time, that is fraught with more interest for the good of mankind than to have a frank discussion.

Man was originally created in the image of his Maker, and might have enjoyed a physical perfection indefinitely had he not sinned, and when sin came, sickness followed, and God sent the man of Gallilee to minister to both, and it has always been a pleasant feature of my profession for me to feel that along side of the ministry the medical profession could claim the Man of Nazareth as the first great physician, and it has always been pleasant for me to feel that, after all, if we would emulate as nearly as we can his example, we could find pleasure and comfort in "Well done thou good and faithful servant." Yet when you come to discuss with laymen the necessary laws of health and the governing principles of protection of each other, there at once arises a great question which naturally confronts us all, that is a thorough understanding of one's duty to the other.

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*Delivered before the Kentucky State Medical Association, Louisville, October 29, 1912.

I can imagine no broader patriotism, nor can I imagine any broader Christianity than that which the trustee and pastor of this great church has shown for the purpose of Christianity, namely, by being so broad-minded as to throw their doors open to the State Medical Society, in order that the great problems of health confronting the people should be discussed within its walls. (Applause). I want to say, to my mind, gentlemen, there is a broadness and depth to that form of Christianity that realizes that, after all, we are our brother's keeper, and that the strongest and most powerful people are those who are not only Christians, but who are strong and well. Therefore, I believe that thought has its meaning in the giving to this Society the right to have its sessions in this house of God.

Naturally, when we begin to figure what the duties of an organized profession are to the people, we very naturally must of necessity figure what is the duty which each owes to the other. It has long been conceded that if a man really appreciated the object of his creation, he would naturally feel his obligations to mankind. In other words, that he is his brother's keeper, and no country and no people can ever reach the limitation of greatness without they have a strong robust people for their subjects.

What have the people, then, a right to expect of the medical profession? In the first place, I should say that the people have a perfect right to demand that medical education shall be improved to the extent, that no man can receive the insignia of the profession without he is thoroughly competent and practically prepared to assume that greatest of all responsibilities, namely, the care of human life. A few years ago medical education in this country was in a chaotic state. Many of the schools that were in existence were poorly equipped and illy prepared to teach modern scientific perventive medicine. But I am glad to say the profession, with its usual promptness and unselfish devotion to the right, in the short period of ten years has almost with unanimity of opinion risen up in their might and decried down all illy prepared and badly equipped medical schools until now, or at least a few years from now, it is safe to say, forced by professional opinion, that there will be no opportunity for a young man to assume this great responsibility without being properly prepared and equipped for that purpose. What a glorious thing, ladies and gentlemen, it is to feel that every medical man who goes into the home of those we love and assumes the responsibility of alleviating human suffering, of improving longevity and of driving back the forces that naturally destroy—what a blessed thing it will be when we are able to say to the people in this country, and they are our people, we no longer permit men in the practice of medicine until they are scientifically equipped to meet the obligations of a doctor. I want to say to the lay members here to-night, that the time is not far distant when we will not turn out any young man from a medical college who is not properly equipped to assume these responsibilities.

The next demand possibly in improvement that the people have a right to expect from the medical profession is that they continue their self-sacrificing study of all preventable diseases until they can no longer spread in our midst. Did you ever think of it, in that period properly called the etiologic period between 1880 and 1890, when the causes of so many diseases were found out and their methods of progagation and transmission determined, that from that day the age of preventive medicine arose in the ascendancy and alongside the brilliancy of progressive surgery stands as the twin stars of scientific progress, equalled by few and surpassed by none in the civilized world. Then the people have a right to say to the medical profession that you with your learning must study these things even at the sacrifice of your life, as has been done, and how many men have passed to the great beyond, dying in the cause of the study of some desolating disease, a true martyr because he died that others might live. How many heroes of that sort are there in the medical profession unknown to the people, and with unmarked graves, and yet in my opinion they stand in the attitude of not only heroes, but immortal heroes. Think of the man who lost his life to determine the cause of yellow fever, that scourge that used to blanch the cheeks of our people, that scourge that used to depopulate a large part of our Southern country, paralyzing industry. It was this man who lost his life who said to the world, here is the cause of yellow fever. Here are the methods of propagation; here are the modes of transmission, and by that not only did he lose his life, but he gave also the power by which that scourge has been robbed of its dangers and terrors and never again to take a foothold in a serious degree on the American Continent. That to my mind is true heroism. Diphtheria, that terror of the nursery has been robbed of its danger. Tuberculosis and typhoid fever, the greatly and widely disseminated scourges of the human race, have been so thoroughly studied and understood that with the cooperation of the educated and enlightened public, but a short time will elapse before we can say to the great white plague, "Thus far shalt thou go and no farther." We have already set back the cholera; we have practically set back the small-pox, and all other scourges which for years used to make excursions into the country and pass like a withering blight over our country, claiming as its victims the flower of our land, and I am glad to say that by unselfish devotion to duty the medical profession stands like a bulwark against the possible invasion of scourges or infectious diseases at the present time.

Ladies and gentlemen, the immortal men, notwithstanding they lost their lives in these great studies and fight against these terrific scourges of mankind, stand as peculiarly heroic and as peculiarly humane in their efforts. I know of no profession, and I say it with a degree of reverence, that so fully and thoroughly stands not only for the good, not only for the preservation of human health, but at the loss of their own professional incomes and stop their means of support, as do the members of the medical profession; and yet, is there any man living to-day who is given the name of doctor, who would hesitate one moment to sacrifice his life, if it be necessary, to protect the health of his people. The medical profession has also learned enough to say to the people to-day, that if you will assist us in the great laws of sanitation and hygiene; if you will join the boards of health of your country and assist them in the proper carrying out of the well known laws of protection, there can be no doubt as to the result. Your cooperation is just as necessary as the labors and work of the boards of health. What good can you do? If the people would rise up in their might and say that we are going to have a clean city, a clean country, a clean home, it would mean a marvelous change in the health, the longevity, of our people brought about by the simple laws of preventive medicine, and I believe that one of the greatest demands on the medical profession to-day is that they no longer hide their discussions with each other behind closed doors; that they no longer have any mysticism about their work, because the members of the medical profession have reached that time, ladies and gentlemen, when they can prove by their scientific acumen the results of their labors. If that be true, why not say to the world, that one of the first and greatest duties is to educate the people, to teach them how to perfect themselves, and when you do this, you will arouse that instinct of motherhood that protects the baby; you will arouse that patriotic element in the women of our own Southland, and you will see laws then passed and enforced by which we will be able to accomplish something in the Boards of Health of this country. (Applause).

I want to say, that I believe one of the greatest forces and one of the great necessities of the hour is the education of the people, and let that education come from the rostrum; let it come from the press or from any other source. The daily newspapers are the great educators of the people, the disseminators of knowledge in this land. Possibly the widest avenues, and the most important powerful sources of statements of facts can be gotten from the secular press, and I want to say that with my acquaintance with the great editors of the papers of this country, I find them always ready not only to give their column and their aid, but too often at a great sacrifice give the benefit of the medical profession any article that is for the good of the people, and I believe that it is perfectly legitimate and right that the medical profession should take this means, if necessary, to dissemminate that knowledge so necessary to the people that they may be able to help us fight this great battle. I long to see the day, ladies and gentlemen, when we can have established at the seat of government some recognition for the lives of our people; I long to see the day when the people of this country will give more attention to taking care of the health of the people than they do of their live stock. I long to see the day when a bureau, or commission, or a secretary of health shall be established at the seat of our national government, with equal powers for the health of the nation behind him, that we may establish a great board of health with national finances behind and national influences, in order that we may be able to put into force the great principles of preventive medicine, so well known to us all. (Applause). If we can only educate our people to realize the necessity of it; if we can only educate our people to realize the fact that tuberculosis, for instance, is not inherited; that it is not a curse sent down on them, but that it is the absolute transmission of infection by sputum in some household or from some source of its own, and that by proper preventive measures could have been prevented and the lives of the youths of this country preserved, we will have accomplished something.

I want to say here now, that I believe it is the duty of every true doctor worthy of the name to rise up in his professional might and pride and in his duty to his people and God back the Owen Bill, or any other bill that will protect the people of the United States against not only the scourges of disease, but against impure foods, and drugs. (Applause). I have no patients with that class of people whose consciences are so blunted by their love of money or their commercial spirit, that they manufacture articles of food and drugs that are adulterated, and put into the bodies of the people things about which they know nothing, or things about which they know less. A few paltry dollars are accumulated by these people at the expense of the health and the lives of our people. We should wage war against that class of people without fear or without favor. We should show them up to the world as not being worthy of Doctors. A profession that has stood as long as ours for the right; a profession that has fought the battles that we have fought for the protection of our fellow beings, should receive the support of the people. It matters not to me what the isms and pathies of the world may say, nor what the proprietary or patent medicine concerns may say, as long as we are the descendants of that grand man of Galilee and pursue his tenets and look after the health and lives of our people, the organized medical profession of America will prevail because it is God given. (Applause). Do not misunderstand me. I have no word of commendation to make for scientific results; I have no word of commendation to make for progress; let it come in all its scientific beauty and usefulness, but I do say that the man who puts things into the mouths of our people, as has been done heretofore, contaminated with alcohol or with morphine, or some opiate, to steal away their brains, is not worthy the consideration of the medical profession, and ought not to be. (Applause). That is one of the things the people have a right to ask for of the medical profession. If we could in every state in the Southland get proper laws both on pure foods and drugs; if we could get proper laws of inspection of school children, we could accomplish much more than we are accomplishing to-day. How many poor little fellows and girls have been dwarfed over that simple condition of enlarged tonsils and adenoids? How many of them would have been sent on the road of useful citizenship if some intelligent inspector had told the mother that the boy's life and health and mental being were dwarfed by simply relievable conditions? Why, ladies and gentlemen, you have no conception of what that would mean in one year in this country. You have no conception of what a proper vital statistics law all over this country, properly passed and enforced, would mean to this country. I want to say, furthermore, that as long as the medical profession sits quietly down and permits any organized body simply for some unknown reason to interfere with the passage of legislation for the benefit of our people, just so long will we not be credited with the honorable position we occupy. We ought to fight these things because it is the fight of right and justice. It is a fight for the benefit of our people, and by properly fighting these influences, baneful as they are, we can have passed laws and have them enforced which will enable us to pass on to that grand stage where we can turn back the infections and the epidemic diseases from our midst, and then we will live years longer, because we would not be contaminated with these vile influences of adulteration of drugs and food stuffs, and if we can only bring about that happy day, that day when we can stand up before the world and say that we are going to live for the benefit of each other; we are not going to attack any man's object for the almighty dollar; we are not going to injure our fellow men—when we reach that day, Utopian as it may seem, it will be one of the happiest days for the medical profession, because from the earliest times to the present it has been a battle cry of true and honorable medicine, not because as some thing for jealousy, nor for personal or selfish motives, but I feel I am expressing the truth when I say that every true and honorable medical man believes that the man who would tamper with the health and lives of his people ought to be treated like the Jew that laid his arm on the ark of the covenant. It is just as sacred. To me the lives of our people are the most sacred of anything in the world next to my Christianity. It is a Christian duty to fight these things, let the sources come from where they may.

What else should be profession do for the people? Not only by proper education to aid in enforcing the laws of health and the protection of foods, and to educate them into the great laws by which we can prevent disease, but we need to come closer together; we need to re-establish that friendship and loyalty that existed between the old family doctor and the family he practiced with. (Applause). Such influences as that will of necessity bear fruit, and if we are to enjoy the full fruition of our labors, we must have the cooperation of the people. I would not have the lay members of my audience feel that I have taken advantage of their presence here to-night to simply in a braggadocio way extoll or boast about the medical profession. This is far from my thoughts, ladies and gentlemen, but I so deeply feel that the road along which scientific medicine is traveling has gotten to the point where we can no longer be separated from you. We feel the need of your cooperation, your interest, in the enlightenment of our people, and the sooner it is accomplished, will largely depend the great results to be achieved by the medical profession in the next decade. That is the reason I have asked your assistance. It seems to me, I may be permitted to say a few words now on the other side. If the people have received the absolute unselfish devotion of a profession for years and doubtless have listened tentatively to the stories told of powers of prevention and the laws of sanitation and hygiene, they ought to be in a receptive mood and ought to seek knowledge of this sort which ought to be proclaimed from the housetops. If they would only learn these laws and cooperate with the doctors, we can and will destroy one-fourth, if not one-third of the diseases afflicting the human race. I believe you owe that to the medical profession. I feel, again, that you should give your cooperation in the passage of proper laws for the protection of the people. If you study these problems, you will find the people are not going wrong fast. The great mass of people as a whole are honest; the great mass of American people as a whole desire to do that which will give the most comfort and happiness to the many. I am sure, if you will all look into the merits of the condition, if you study what we have to tell you; if you learn the great lessons we want to teach, there can be no doubt as to the results, the wonderful results, that will be brought about by such education.

I heard to-day with pride that the City of Louisville was now in her magnificent charity work building a modern hospital for the care and treatment of the sick of Louisville. Ladies and gentlemen, if people with wealth would only understand that one of the most beautiful attributes of Christianity is this very power to pitch in and help the sick and needy; if they would only understand that from these hospitals alone can the best and most scientific work be done, I am sure, many of our philanthropic cities would give more liberally. In other words, the day has passed when the home is a good place to operate on people; that the day has passed when the home is the place to treat people who have infectious diseases. People should be taught to realize that there are two great uses to be made of the hospital. One is, and primarily, to take care of the sick. The second is to utilize without harm to patients the material to instruct young men so that when they go out in the world and assume the greatest responsibility of the bedside, they will have been properly prepared practically to assume that responsibility, and I heard with a great deal of pleasure that this new hospital would be so used. I feel that one of the greatest philanthropic efforts of the world is here; that practical Christianity that builds temples for children; that practical Christianity that alleviates human suffering; that practical Christianity that gives to the purposes by which others may be cured. I feel that it is one of the grandest and noblest gifts man can possibly give. I feel, furthermore, ladies and gentlemen, that if we pay more attention to these conditions we would have more influence. I want to say in behalf of the great churches that they are realizing this. Many of the great denominations that are building hospitals are realizing the necessity of this, as do corporations and cities and towns realize it, and as we pass on down and the demand becomes greater, we can then have these hospitals so that young men can be taught medicine and surgery. It has been proven that the greatest and best results of a hospital for the sick, both in surgery and in medicine have been obtained by the men who teach because they must get the results; they must not only teach the students how to practice medicine, but one of the great lessons that should be inculcated into the minds of every young medical man is that he is going out into the world not only to help to prevent disease, not only to alleviate human suffering, but that he is to occupy a position in which, if he carries out the true ideals of his profession, he will be an honorable Christian gentleman. And they ought to be taught that in every medical college in the world, because in my opinion no doctor is worthy to go into a family and assume the great duties imposed on him who does not carry with him some of that milk of human kindness and love of mankind that comes down to us by the Christianity of our fathers. Furthermore, I would teach them this also; never to be cruel or to treat patients badly, let them be ever so poor. A doctor is not worthy of the name who would not treat the poorest patient in the world with the same consideration and kindness that he would the richest in the world. If he does not, he has lost that principle for which his profession was created and he misses the joy of his professional life. I know of no love in the world; I know of no compensation in the world that equals the smile of gratitude that comes from the face of the mother when you hand back the infant that has been almost at the grave. I know of no more blessed faith than to feel the simple grip of the hand or to see the simple smile on the face when you are able to say to the father or to the children, "Mother is going to get well." I would not lose the comfort, the happiness, I have gotten of that sort in my practice for all the money that the world contains. To me the grandest and noblest fee a physician ever gets is the power to say to others that by my feeble efforts and your help we have been able to save the lives of some of the loved ones of the family. (Applause).

In conclusion, ladies and gentlemen, I want to say, that I have always felt it strange that the heroes of the world have always been in national life the warriors or statesmen. I stood at that grand mosque erected to Napoleon in Paris, which embodies the daring and incarnation of war, and it seemed wonderful to me the amount of respect the French people pay him, and I could not help but feel that here was a monument erected to a man who had trailed across Europe and won battles, but who left behind him the shrieks and tears of widows and orphans, and then I turned and compared him with the great Pasteur or Koch, or to a man like Jenner or Hunter, or to other men engaged in trying to save human life, in trying to perpetuate some improvements in the world by which human life can be saved, and I said to myself, is it not strange that the people do not realize the heroism and usefulness of the latter lives as compared with the man, who notwithstanding he made Europe tremble, notwithstanding his ambitious career, was one of the most remarkable men the world has even known, and yet ended a life on St. Helena that must have shakened his last hope, and must not have been filled with that pleasure and comfort that would come to Jenner who gave to the world vaccination for smallpox, one of the greatest scourges of the age, claiming more victims than the combined armies of the world, yet who finally conquered it until practically now it is not thought of as a dangerous disease. (Applause). In our own country we have our Washington, our Lee, our Grant and God knows I would not detract one iota from them. No man reverences their memories more than I, but is it not better to have been Ephriam McDowell, who gave to the world the first possibilities of abdominal surgery by which thousands of human lives have been saved? Is it not better to have been Marion Sims or some other noted man, like Reed or Lazear who gave us the possibility of stopping scourges. Would it not have been better to immortalize men of that sort rather than the terrific ordeal of war that claims victims, that ambition should be satisfied? It seems to me, ladies and gentlemen, when time shall have ended, the men who have stood between the lives of their people and sickness and death, and have never been found wanting, the men who are ready at all hours of the day and night to sacrifice themselves that the lives of the people might be saved, will finally come into their own, and in that final day, they will receive the most blessed call that I imagine can ever come to mortal man. "Well done, thou good and faithful servant." (Loud and prolonged applause).

ORIGINAL ARTICLES.

SYMPOSIUM ON PUBLIC HEALTH.

HOW THE UNITED STATES PUBLIC HEALTH SERVICE CAN HELP IN THE ERADICATION OF PREVENTABLE DISEASES IN KENTUCKY.*

By Joseph Goldberger, Washington, D. C.,

PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH SERVICE.

The subject originally assigned to me by your Secretary for discussion was "How the United States Public Health Service Can Help in the Investigation of Preventable Diseases in Kentucky." I have thought, however, that it might lead to a more profitable discussion to broaden the scope of the subject by amending it to read "How the United States Public Health Service Can Help in the Eradication of Preventable Diseases in Kentucky."

Recent agitation for the creation of a much-to-be-desired Federal department of health has served to bring out that there exists a very wide-spread misconception as to the power and authority of the Federal Government to act in the prevention and eradication of disease. This is well shown by the following story which has been widely quoted: A mother in Indiana whose child was dying of tuberculosis, is said to have telegraphed in vain to Washington for aid. Not long after this cholera developed in a herd of a neighbor's hogs and on telegraphic request, so the veracious account runs, the Federal authorities at once sent an expert in the treatment and prevention of hog cholera. The moral of course seems obvious! "Be a hog." The story is an interesting one, but like so many interesting stories, it makes its point at the expense of the truth. It well emphasizes the keen interest of the Government in animal industry, but it is decidedly misleading as to the Government's interest in human life. The Government through the Bureau of Animal Industry of the Department of Agriculture is prepared, as it should be, to combat contagious diseases in animals, but no more so than it is through the United States Public Health Service to combat those of man. The Bureau of Animal Industry attempts to control hog cholera, Texas fever, foot and mouth diseases and the like, but it does not undertake to treat individual cases of tuberculosis or pneumonia in cattle. In the same way the Federal Public Health Service is prepared to respond to any request for aid in the suppression and eradication of such epidemic diseases as Asiatic cholera, bubonic plague, typhoid fever, cerebro-spinal meningitis, and infantile paralysis, but it does not and cannot undertake to treat individual sufferers from these diseases.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

The treatment of the individual must be left where it belongs—in the hands of the family doctor. The sanitary officer deals not with individuals but with communities of individuals, and this applies with peculiar force to the Federal officer in a government like ours. It is well to understand in the very beginning that there are some things the Federal Government can not do, however desirable it might be that it should do them. It would, for instance, be exceedingly desirable to have uniform marriage laws; the extreme importance of a uniform system of registration of vital statistics has more than once been emphasized; a uniform and comprehensive system of morbidity reports is not only extremely desirable, but indeed essential for obtaining that knowledge of disease prevalence, without which the sanitary officer is helpless in the face of threatening or actual epidemics. These things, I say, are all extremely desirable, and it is hoped that some way may be devised to get them, but they cannot be realized by the action of the Federal Government alone; the cooperation of the states is vital for under our constitution the power to act and do in such matters has been reserved to the states.

While, as I say, there are things that the Federal Government can not do for the very good and sufficient reason that I have mentioned, there are, nevertheless, many things that the Federal Government can and does do. It can and does act in sanitary matters relating to interstate commerce; indeed it is within this broad sphere that the Federal Government most freely and effectively exercises sanitary functions. Through the Bureau of Chemistry of the Department of Agriculture, it enforces requirements as to purity and strength of foods and drugs. Through its Bureau of Public Health it operates in various ways to prevent the spread of disease from one state to another.

It is not to be understood, however, that the Government's public health activities are circumscribed to those relating to interstate commerce. The Federal Government can and does exercise functions having important public health bearings that have no direct relation to interstate commerce, but they are functions that do not trench on the sphere reserved to the states. Through its Bureau of Public Health it collects and publishes information relating to disease and disease prevalence, and in the Hygienic Laboratory of this Bureau, it makes investigations into the nature, causes, modes of progagation and prevention of disease. As recent examples of such studies, there may be cited those on typhoid, uncinariasis, measles, poliomyelitis and methods of standardizing disinfectants. The results of such studies are published and made available for the benefit of all.

The insistent demand that the Federal Government do more than it is doing in the development of the cause and means of prevention of disease has pervaded the recent agitation for a Federal department of health. Without, in the least, minimizing the desirability and, indeed, the necessity of greater Federal activity in this, as well as in other respects, the important fact must nevertheless be noted that the existence of a vast body of knowledge already available, and to which the Government is making no mean contributions, as it is, appears to have been largely overlooked, at least, so far as may be judged by the extent to which it has been practically applied. It is important that we awake to the realization and appreciation that sanitation in our country is suffering nearly, if not quite as much from the inadequate, or lack of, application of what we already know, as from the need of knowing more than we do.

Allen* puts is more strongly and goes further, though, perhaps, a little too much so, when he says that: "Utilization of health knowledge already known requires attention now more than the discovery of facts heretofore concealed. With almost negligible exceptions, we can stamp out diseases common to man without knowing one more fact regarding medicine. The great problem of the next few years is to show medical men themselves and philanthropists who like to give money for training medical men and medical research that the supreme need is for administrative use of medical knowledge already in hand."

Within the sphere reserved to the states the government can exercise no functions except at the request of the state or local community. This is a wide field with many pressing and complex problems, and although the Federal Government can not enter of its own initiative, it is always ready and willing to help the states and local communities to solve these problems, when they evince a desire for its help.

Having thus briefly outlined the field within which the public health functions of the Government are circumscribed, and having in very general terms indicated the character of the functions which it does or may exercise, I wish now to outline the way in which the Government through its Bureau of Public

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*Allen, William H., "Health Needs and Civic Action, The Public Health Movement," Philadelphia, 1911, Page 11, Health can help to eradicate the preventable diseases in Kentucky.

Morbidity Reports.—The first step in the eradication of preventable diseases is to know of their prevalence, hence it is extremely important that there be provided some means of obtaining and distributing this information. In the nature of the case the reports of sickness must in the first instance come from the local communities, and machinery must be provided to give the state this information. But the state is not an isolated unit; it must know not only what is going on within its own borders, but also within those at least of its immediate neighbors. This information the U. S. Public Health Service attempts to supply through its weekly publication, the Public Health Reports. Unfortunately, for reasons already given, the information published is only what the individual communities, the states, are willing and able to furnish, and in most instances this information is incomplete and imperfect. Indeed, but few states of the Union make any very satisfactory attempt to gather even imperfectly this very important information. The field for improvement in this direction is enormous. The Public Health Service is constantly endeavoring to impress upon the local authorities the very vital importance of extending and perfecting their morbidity reports which it is ready and anxious to publish for the information of all concerned.

Sanitary Survey.—Reports of morbidity give the sanitary officer information with respect to the existence and the degree of prevalence of disease. In order, however, that measures looking to the eradication of preventable sickness may be intelligently planned and the money of the community most advantageously spent, the sanitary officer must know what factor or factors are at work favoring their prevalence and to estimate the relative importance of the various factors involved. His morbidity reports, if they are what they should be, will tell him, for example, where and to what extent typhoid fever, hookworm disease, trachoma, pellagra, etc., are prevailing; but to begin a campaign of eradication against them or any one of them with out knowing what the factors are, at least the most important ones, that influence their propagation or prevalence, would be, if not entirely futile, certainly very wasteful. To obtain this very necessary information necessitates a sanitary survey of the State. The U. S. Public Health Service is ready and willing to help the State of Kentucky to do this very important work by detailing experienced officers to cooperate with your State Health Department, appreciating that the information obtained would have wide applicability throughout our country.

As illustrative of the value of a sanitary survey, I would call very special attention to the important work undertaken by your State Board of Health under Dr. A. T. McCormack in connection with hookworm disease in rural districts in its relation to the records of deaths from tuberculosis and other diseases reported from certain localities. His data, seem to indicate that the high death rate from tuberculosis is closely related to the intensity of infection with hookworm. It is obvious that by attacking and eradicating hookworm disease there will also be brought about a reduction in the deaths from tuberculosis. It is an excellent illustration of intelligent campaigning against disease.

The information obtained by a state-wide survey is to be utilized, of course, in planning further work. But this is not all. It should be utilized also for the education of the people, to show them the sanitary needs of the State, and for the information of legislators to show why the appropriations asked for are needed and should be granted.

Having determined the sanitary needs of the State, the most important, the most pressing problem or problems should be given immediate attention. Whatever this may be, whether it is tuberculosis, typhoid fever, trachoma, hookworm disease, or pellagra, (and no doubt your board of health already has very definite views on this subject) a careful investigation will be needed to determine as definitely as possible what the special factors are, if any, that favor the prevalence of one or other or all of these diseases. Here again the U. S. Public Health Service is prepared and willing to help by loaning to the State experienced men to aid in doing the work just as it recently did in detailing an officer to make a study of the prevalence of trachoma in a certain section of your State.

Many, if not all, of Kentucky's sanitary problems are also the problems of the other states of the Union. Some of these, such as those of typhoid fever, infantile paralysis, pellagra, trachoma, hookworm disease, stream pollution and pure milk, have, for that reason, already been or are at this very time the subject of intensive study and investigation by the U. S. Public Health Service, and the information obtained has been published or will be published and thus made available in the work of your State sanitary department.

Hygienic Laboratory.—Besides such help as I have already indicated the Service is prepared to give aid in the eradication of disease from Kentucky by placing at the disposal of the State the facilities of its Hygienic Laboratory. The Hygienic Laboratory in Washington is open to any representatives of your health department, who may wish to avail himself of its facilities in carrying out any research relating to any sanitary problem of the State. It is also ready and willing to be used as it already has been used to aid the State laboratory in the examination of excreta and other pathological materials.

The laboratory is also open to any health officer of this as of the other states who may desire instruction in the newer methods of laboratory diagnosis. Such instruction may be had on request and tends not only to increase the efficiency of the officer who avails himself of the privilege, but also, through the opportunity for intimate contact with his colleagues of the Federal Service, to bring about a better and more helpful understanding of each other's aspirations and needs, and thus develops a more helpful spirit of cooperation for service in the common cause.

It is to be regretted, however, that but few men have so far found it convenient to avail themselves of this privilege. It is only fair to say, however, that this is not altogether their fault. As a general thing the tenure of service of county and municipal health officers throughout our country is not such as to offer them any inducement to improve their usefulness to the community employing them. The surprising thing, indeed, is that one finds so many earnest, conscientious men willing to serve their communities in these positions. All thoughtful observers recognize that the crying need in this country is for the well paid, well trained, full time, health officer, particularly the county health officer.

These, in brief, are some of the more important ways in which the U. S. Public Health Service can help in the eradication of the preventable diseases in Kentucky. The Service is ready and willing to help your health board in this great work. Its willingness to help is unlimited and the amount of aid which it is able to render is circumscribed only by the limits of its available personnel and appropriations. Your State can have this assistance for the asking; it can have more, if it will do its share through its representatives in Congress towards supplying the Service with more men and more money.

THE PUBLIC HEALTH PROBLEM—CONSTRUCTIVE EFFORTS TOWARDS ITS SOLUTION.*

By W. L. Heizer, Bowling Green.

(STATE REGISTRAR OF VITAL STATISTICS.)

For centuries disease and death have been regarded as inevitable and accepted as matter of course. When plague, smallpox, cholera or some other dreadful scourge appeared in a country, their pathway was strewn with countless thousands of dead and dying. No intelligent effort was made to stay their progress for the cause of the disease was unknown; and so, for thousands of years, there have been scattered in ignorance over the face of the earth the diseases which to-day claim their dreadful toll in human suffering, usefulness and life. Various theories were advanced as to the cause of disease, only to be disproved by time and events.

With the development of the science of biology and the revelations of the microscope in studying ultra-microscopic life, bacteriology revealed the true nature of many of our diseases and the world awoke to find that in the truth of the Divine statement, "Whatsoever a man soweth, that shall he, also, reap" lay concealed the cause of most of the physical ailments.

Smallpox, diphtheria, yellow fever, malaria, cholera, plague, typhoid fever, typhus fever, cerebro-spinal meningitis, pneumonia, abdominal inflammations and other scourges of mankind, have had the searchlight of medical research turned upon them, and been forced to reveal a simple truth which in darkness caused countless millions of men to suffer and die. Until these discoveries were adopted and proved by the medical world, the prevention of disease remained the doctors' problem, and it is still regarded so by the great majority of people who naturally are in the dark as to the cause and cure of disease, and the effect of illness upon a community, state or nation.

It has come to be recognized by our educator, including leading ministers, teachers, physicians, lawyers, editors, statesmen, womens' clubs, and social workers that the prevention of unnecessary sickness is a social problem of the highest order and requires the highest degree of efficiency and cooperation of all our educational forces to solve it satisfactorily. In this connection, we have prepared a chart showing for ten nations of the world the condition of illiteracy, the amount of money spent by the state for educational purposes, and the death rate from typhoid fever. This disease is a type of all the communicable diseases, and its prevalence in a community, state or nation is a fairly good index to the intelligence of a people.

It will be noticed that Spain has 75% of her population illiterate, spends only twenty-five cents per inhabitant for educational purposes, and has the highest death rate from typhoid fever.

Italy follows with a similar condition, and this relation through the list is shown with a fairly steadfast ratio. Germany and Switzerland with least illiteracy has correspondingly the least number of people die from this easily preventable disease.

The same kind of intelligence directed against the other leading communicable diseases, will produce a like result. These statistics for a period not exceeding five years are accurate, being obtained from the report of the Registrar General of England.

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*Read before the Kentucky State Medical Association, isville, Monday, October 28, 1912.

For comparative purposes, a second chart has been prepared for 24 states of this country, showing the prevalence of illiteracy, amount of money spent for educational purposes, per capita wealth in manufactures and agriculture and the death rate from typhoid fever. In fourteen of these states, the death rate is obtained from reports of accurate Vital Statistics, Kentucky being included in this number, and the first Southern state to be recognized by the Federal Government as having practically complete Vital Statistics.

Summarizing this chart, it can be said that in those states having least illiteracy and most money spent for educational purposes, there is the greatest wealth per capita, and while in those states having most illiteracy the lowest death rate from typhoid fever, and least money spent for educational purposes, there is less wealth from manufacturers and agriculture, and highest death rate from typhoid fever. In the absence of adequate vital statistics (and their value becomes plainly apparent in the proper adjustment of this economic proposition) the death rate in these from typhoid fever, tuberculosis, dysentery, etc., can be only presumptive. But when it is considered that this particular region has most of the two million cases of malaria, and that illiterary is as high or higher than in Kentucky, which has the highest death rate in 1911 from tuberculosis and typhoid fever, it can safely be presumed that the death rates from this region from these diseases are as high or higher than in Kentucky mortality. It would indeed be interesting if reliable statistics could be had of the relative immorality of these several states and countries so that the relations of poverty, disease and illiterary to morality could be shown, but it is safe to say that where disease, poverty and illiteracy are, there will immorality be, also, and to accomplish successfully their task of spiritual regeneration of the people the clergy must direct no small part of their effort towards solving the public health problem.

The time has come when the minister must break away from the time-worn and conventional funeral service in which consolation is given the bereaved ones by stating that it is God's will that some young mother or son, father or daughter, or helpless infant should be poisoned by eating or drinking the bodily excretions of some one ill of typhoid fever, or dysentery. Such untruths as these proclamed to thousands in distress work possibly the greatest hardship of all upon those who are trying to lower the sick and death rate of a people. The writer was compelled to listen to statements like these at the funeral service of a year-old baby when 24 hours earlier he had worked for hours trying to remove from its stomach cabbage, tomatoes and beans that had been fed to it by an ignorant mother contrary to medical advice.

The leading representatives of the church are in touch with advanced medical science but a large percent of those who occupy the pulpit have not modified their personal belief to conform with God's truths as discovered by medical research, and continue to permit prejudice, superstition and ignorance to guide their people towards unnecessary sickness, poverty and premature death.

I would not be guilty of saying that our state is not cognizant of her problems and is not making constructive efforts to solve them. The establishment of our normal schools; the generous support of her university, her good roads agitation and legislation; the advance step made lately by our public schools in teaching practical things to our rural boys and girls; the organization of our corn clubs; women's clubs; rural and High school supervision; the establishment of the Kentucky Tuberculosis Commission; the increased activities of the State oBard of Health in creating and maintaining Bureaus of Bacteriology, Sanitary Engineering and Vital Statistics; the liberal news and editorial support of Kentucky journalism; all point to a great awakening and reform in this best of states. The wheels of progress are spinning in old Kentucky and it is for her advancement that they be put "in gear" and by cooperative work attain the best results made manifest by increased wealth and manufactures, better tilled soil and larger yield; better citizenship, morally and physically; longer life, freer from disease, and an intellectual people second to none.

With this purpose in view, it is in order in this consultation of doctors of Kentucky's illness to review her symptoms and look conditons squarely in the face that a proper treatment may be administered.

It is at once apparent that human life and health are the most valuable assets of a state or community. It is needless to remind this body that without human life and health to direct this city's activities the property in it would be worthless and that Kentucky without her people would be as a desert. Thus it is that political economists have succeeded in placing on human life a fairly accurate money value. That these values are not fictitious but real it is but necessary to recall that within a lifetime, human beings were bought and sold for the profit in dollars and cents that could be extracted from the labor of a healthy, working negro.

This chart has been made to represent the expenditures of Kentuckians each year and is proportional in its construction to the fairly accurate statistics upon which it is based. It will be seen that we are spending and losing each year from diseases that can and ought to be prevented, in unnecessary drug, doctor, nurse and undertakers' bills, including loss of time to those sick and the loss of those who die of preventable diseases $28,450,950 or four times the entire amount of revenue of the entire state. For every $940.00 the people loose from this cause, the state expends $1 to save that amount and this loss happens thirty thousand times every year or in other words, every time the clock strikes the hour, there has been spent by the people of Kentucky the preceeding hour $3,232 and this has been going on for years and will continue to do so unless conditions are changed by organized effort.

It costs the people of Kentucky about five millions of dollars every year to maintain their county organizations to look after the observance of statute laws. They pay willingly about the same amount to support their ministers, their churches, etc., to maintain the spiritual laws and yet in most counties of the state there is less than $75 spent each year to support county boards of health which properly equipped at a cost not exceeding five thousand dollars for each county would save them enough money, paid as tax to doctors, druggists, nurses and undertakers and loss of time, to pay all the running expenses of their counties and the state besides saving them from the mental and physical distress from unnecessary illness.

We spend yearly in Kentucky about $6,000,000 to educate our citizenship and yet we import nearly all our manufactured articles than can and ought to be manufactured here where coal, material and labor are abundant; ride over miserable roads which are a constant tax; wear out our lands; and leave our graduates in such a frame of mind that one thousand and thirty-five of them died last year from eating excrement from some one ill of typhoid fever; our girls come out of our schools, marry and poison their babies with dirty, fly-laden milk, pies, cabbage and other food unfit for infants, to the extent that 1,134 of them under two years died of summer complaint last year and thousands were made seriously ill from the same cause. Our educated citizens spent hundreds of thousands of dollars each year as tax for fixing up bad teeth which under proper treatment as a result of efficient teaching ought not to require one cent for epair. They complacently permit tuberculosis subjects to sow millions of the seed of their malady in the public places, their homes, or in their own lungs or the lungs of their families, by spending the night in infected beds, in using infected milk so that last year (which is an average one) 5,181 of them lost their lives and 30,500 of them will proceed with the funeral procession. We are harboring about 150,000, probably more, victims of hookworm disease and spending uselessly thousands of dollars of our good school money trying to educate sick children when thirty cents of medicine and an hour's cooperation of school officials with competent boards of health would convert these liabilities into assets for Kentucky.

We send to the East for insurance each year about six million dollars net, when some plan could be devised to keep this money at home and have it invested in factories to give our own people employment.

The enlightenment of the people along health lines must rest largely with the teachers in the public schools and yet we have not now, nor have we had in use in our public schools, any sort of school physiology that deals with these practical, life-saving problems of the coming mother and father, and our teachers are so poorly paid, few can afford to remain in the profession.

The pulpit and the press have a share of responsibility in solving the problem and it can be said that a considerable number of ministers and editors in Kentucky have contributed largely to molding public opinion. The editorials of the Courier-Journal relative to matters of public health have been of inestimable value to the people of Kentucky, and show a real appreciation of the duty of the press in this social reform.

The speakers who have preceeded and who will follow me are representatives of the most powerful factors in determining the destinies of Kentucky, and have been invited to contribute to the plan of cooperative public health work because we believe that only in union of these forces can the best results of each be secured. Human welfare and life, being the basis for material prosperity and intellectual and spiritual superiority, become the concern of every constructive statesman, editor, minister, teacher, physician or citizen.

The physicians of Kentucky stand ready to answer any call to better health conditions, and their profession stands alone in their spirit of unselfishness and altruism in that every effort they make to suppress disease is a sacrifice of the money which would come with the prevalence of disease. They will address your audiences, inspect your schools, hold free dispensaries for those who are not able to pay.

The Bulletins of the State Department of Education and State Board of Health should contain articles mutually helpful to the two activities and should reach every teacher, doctor, state and county official, editor, Y. M. C. A. reading room, member of womens' clubs, in Kentucky. The Bulletin should be the official organ of this "league offensive and defensive for every well-wisher of Kentucky," and its columns should be filled with articles by members of these organizations which would have to do with the physical, moral, intellectual or social development of the people.

The chief objects of cooperation of these forces then, it would seem, are:

1. Educate the public in the proper methods of preventing disease, through the public schools, press, pulpit, and from thep latform.
2. Furnish a sufficient number of competent speakers, and large audiences to greet them.
3. Elect county and state officials who would establish a county department of health with a competent health officer, well paid, to devote his entire time to prevention of disease in his county; a laboratory where immediate microscopic and chemical analysis could be made, free of charge, of bodily excretions from persons ill and of water and milk.
4. Enactment and enforcement of sanitary laws to guarantee pure food, water and in good roads, better schools, higher salaries, air to the people.
5. Secure larger investments by the State for more competent teachers, and increased appropriations to the State Department of Health.

WHAT THE FEDERATION OF WOMEN'S CLUBS WILL DO TO CONSERVE THE HEALTH AND LIVES OF THE WOMEN AND CHILDREN OF KENTUCKY.*

By Mrs. LaFon Riker, Harrodsburg.

Do not, gentlemen, judge the ability of the women of our State to work by my ability to talk to you, for it is a new and embarrassing position for a club woman with no knowledge of medicine to raise her voice before a body of professional men.

In 1906 the Secretary of the Board of Health of a distant state said "I speak truthfully when I say that the value of the work of the women of this state along lines of public health can not be over-estimated, and it has been limited only and because we men who are in charge of this work have not fully availed ourselves of their willing hands and ready hearts." This probably was true in many states in 1906 but in Kentucky as far back as the women have been prepared and willing to work the State Board of Health and Medical Association have shown themselves more than willing to accept their feeble but constantly increasing efforts.

An old proverb says "What you would have appear in a nation's life you must introduce into the public schools." Realizing this our efforts to educate along health lines has been largely through the schools. Our first work in Kentucky before we had a department in our Federation devoted exclusively to health work was when our civics department in its endeavors to make schools and towns more cleanly and more beautiful, learned of the terrible scourge of tuberculosis. Immediately a campaign of education was begun through the children. Posters, wall cards, and book marks bearing simple instructions how to prevent tuberculosis by fresh air and good food, and with warnings in regard to the use of patent medicines were distributed by the thousands. Soon societies formed over the State composed of both men and women undertook this work on a larger scale than we possibly could with very limited means, and we turned our attention to other matters equally important. Our women all over the State are now interesting themselves in better and cleaner rural schools, sanitary out houses, clean up days, anti-expectoration ordinances, the extermination of the house fly, and many other questions bearing on health. We worked for the Vital Statistics bill, the Tuberculosis Commission, and the bill for the abolishment of the common drinking cup last winter at Frankfort, but what you want to know, I am sure, is not so much what we have done as what we are willing to do this coming year. Monday, the women of the Federation of Clubs, who are leaders in the different branches of work bearing on health and whose efforts, if combined, can do much for the good of the State, met and with Dr. McCormack present, decided upon the following plan of work.

We will ask for a State Health Day. Each town, through its Women's Clubs and physicians arranging a program for that day. Speakers to be provided by the State Medical Association and Board of Health. Heretofore we have had such days observed by our clubs but we propose to make this day with the help of the men, a much more important event in the life of each community. For years, too, there have been more or less successful efforts to observe annual or semi-annual clean-up days in many towns and cities, but no organized effort has been made to make this a house-cleaning for the entire State at one time. We now ask that in the spring and fall these clean-up days be appointed by the Governor and both men and women, through their various organizations, continue to give our old State such a renovating that no death-dealing germ can survive.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

The offer so generously made to us, of the use of the columns of the Bulletin, issued by the State Board of Health has been accepted, and four issues will be edited by four committees of the Federation of Women's Clubs, Health, Civics, Pure Food and Household Economics. We hope to make these members, not only useful to the intelligent, informed parts of the State, but, so simple in language that those living in the remote parts where the gospel of health and beauty seldom penetrates may also understand and be benefited.

The physicians who have been working with the hookworm problem tell us that where they have been able to call on the Women's Clubs for assistance their work has been much more easily accomplished. We will redouble our efforts to obtain this assistance this year by asking each club to take a special interest in the subject by hunting up and reporting suspected cases, and by appealing to fiscal courts for assistance in having investigations in each county. This we realize will be hard and discouraging work and the results may not be large, but even the agitation necessary may be helpful.

We are told that our Vital Statistics Law is well enforced, 90 per cent of the births and deaths being recorded, but we know there are still many who think this law an unnecessary bother. Women who are interested in the conservation of the lives and health of children consider it very necessary and appeal to you, gentlemen, to see that this law is well enforced.

We thank you, gentlemen, that you have recognized our efforts in the past and may we continue to deserve that recognition by fulfilling the promises we have made.

WHAT WILL BE ATTEMPTED BY THE STATE DEPARTMENT OF EDUCATION TO LOWER THE SICK AND DEATH RATE OF KENTUCKY.*

By Hon. Barksdale Hamlett,

SUPERINTENDENT OF PUBLIC INSTRUCTION OF KENTUCKY.

Ladies and gentlemen, doctors of Kentucky: You and I are deeply and vitally interested in what I conceive to be to-day the greatest problem in Kentucky. I was very glad to hear what Dr. Heizer has said. In fact, he has made my speech before I came here, and I am glad to have heard what this splendid woman has said. I am glad to welcome all who are taking an active part in this fight which you are making, and which is as vitally important to me as it is to you. What we need is cooperation, what we need is unity in our efforts on behalf of not only the redemption of Kentucky from illiteracy, but her redemption from that which is even worse than illiteracy, namely, a lack of regard, apathy on the part of the people in this matter of Public Health. There are greater things than knowing how to read and write perhaps. Of course, that is my hobby, but I tell you I am here to agree with you and cooperate with you and stand by you and to ask your cooperation with me in this great fight we are making. You cannot make a great Kentucky citizenship any more by the redemption of Kentucky from illiteracy than you can by inculcation into the minds of the people the importance of public health. Health is just as important as the development of the mind of the child because upon the development of both of these depends the development of the character of the child, and upon these depends the making of citizenship and the making of greater Kentucky.

I want to say to you doctors, to the newspaper men of Kentucky, some of whose representatives are here, to the ministers of Kentucky who hav honored us with their presence here, that we school teachers, we doctors, we newspaper men, and the pulpit of this State must stand together for the redemption of Kentucky in these matters, and we are going to do it. I wish I had time to relate to you the great progress we are making educationally. I want to thank the medical profession for what they have done in this matter to help us on. I want to thank all of these great agencies for what they have done to help us to bring about this splendid awakening. Kentucky is a progressive State to-day. We are making progress in everything. I believe in progress. I believe in progress in the medical profession, in the school teacher's profession, in the pulpit, the press, and everything else. The time has come when the age demands that we lay aside and forget the policy to let good enough alone. We must go forward and the age demands it. The future generations demand it.

I am glad to be able to clasp hands with this fraternity, this great progressive fraternity in the fact that we are making for the redemption of the children of Kentucky. We want to eliminate the evils that we have had in the school rooms of the State in the past, and I am expecting the doctors of this State to help us to do much more than any other agency in the State. I shall cooperate with you on all occasions in every service I can render on behalf of Kentucky in this great humanitarian battle which you are making.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

I am sorry I cannot talk as I would like to, but I thank you for this privilege and for the opportunity of meeting you and looking into your faces. (Applause).

SOME PRACTICAL PUBLIC HEALTH WORK THAT WILL BE ATTEMPTED BY THE KENTUCKY PRESS ASSOCIATION.*

By Edward Shinnick,

President Kentucky Press Association.

Mr. President and Members of the Kentucky Medical Association:

Gentlemen:

I want to say in the outset that your invitation to say something on the subject: "Some Practical Public Health Work That Will Be Attempted By the Kentucky Press Association," that was assigned to me, is a highly appreciated compliment. It has been tritely said, that no movement can succeed no matter how beneficial its objects may be, unless publicity and arguments of the benefits that are to accrue therefrom, are placed before the people. The press wields an immense power, and even the most humble newspaper has an influence, and every editor I know, is willing, and anxious to lend his best efforts to the dissemination of knowledge of everything pertaining to the better physical health of those who read his paper.

For knowledge to be disseminated in reference to the public health, the newspaper man must depend upon men of your profession; men who have made the matter one of study and research. Statistics show to the amazement of all of us, the enormity of the ravages of what are termed preventable diseases, such as tuberculosis, typhoid fever, etc. Not one of us doubts the accuracy of the figures, and we stand appalled, but what can a lay man do to relieve the situation? The answer to this question lies with you gentlemen. The members of the Kentucky Press Association to a man, and I know all of them, are ready and willing to give space in their papers, to use their personal influence, and to contribute of their means, towards the furtherance of any movement that contemplates the improvement of public health.

No intelligent newspaper man, who has achieved even a modicum of success in his calling, will claim to know more of theology than the theologian, more of surgery than the surgeon, or more of the cause and cure of disease than the learned men of the medical profession. He may know how to conduct a newspaper successfully, but his ability to do this comes from experience and knowledge that has been obtained from others. There are no born newspaper men, and there are no born scientists. We have fake newspaper men. Not many, thank God, in Kentucky, and we have fake doctors. I have no idea how many, but every man here knows this to be true. Your object, as I understand it, is to eliminate the claims and practices of these from consideration.

I wish to assure this Association that the Kentucky Press stands ready to do whatever practical health work it can find to do. You gentlemen, however, must blaze the way for us. Upon you depends the information and knowledge that should be imparted to the people. Tell us the facts and figures, and we will gladly publish them. Prepare your articles with the salient points emphasized, and we will gladly give publicity to them. The Kentucky Press stands ready to go hand in hand with the medical fraternity in every effort that may be made for a betterment of the public health, including the prevention and cure of diseases.

If I have failed to cover my case as explicitly as was expected, it is because of a lack of information as to just what is wanted.

I wish to say, however, in all earnestness, and with a knowledge of my brother newspaper men, that the Kentucky Press Association will gladly assist this Association in the furtherance of its aims and ends. This, as I conceive it, is the best practical health work the Press Association can do. We recognize your ability, and our inability, to talk intelligently on the subject at hand. Our Association will gladly be your mouthpiece. We are all heartily in accord with you in your desire to cure and prevent diseases and we will faithfully assist you in any way you may suggest. I speak authoritatively on this subject, and without hesitation, pledge the hearty support of the newspaper men of Kentucky.

PLANS OF COOPERATIVE HEALTH WORK THAT WILL BE PRESENTED FOR ACTION BY THE KENTUCKY EDUCATIONAL ASSOCIATION.*

By Prof. R. L. McFarland,

PRESIDENT OF THE KENTUCKY EDUCATIONAL ASSOCIATION.

Ladies and Gentlemen:

After all, it seems to me, that our problems are very much the same. If we analyze our problems thoroughly we find they are running into each other. I think this is a great day for the State of Kentucky when the various professional interests of the State, when the various forces of the State working for the uplift of the people of the State can come together as we have to-day, when we can be brought together, become acquainted with each other, and recognize that our own particular field of operation is not an isolated one, but that we may have sympathy from other fields of endeavor. I come to you, ladies and gentlemen, asking your cooperation. I come to you to-day, representing in a feeble way the organized educational forces of this State. The school people of this State have recognized the great service that you gentlemen can render with comparatively small expense of your time and energy.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

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I have no formal address to make to-day, but I want to express as best I can what I conceive to be the attitude of the educational people of this state with regard to the matter of cooperation and public health. I will make this statement as brief as possible. The problem of health has become an educational problem. The teacher has come to realize that before effective teaching can be done, a teacher himself must be in a robust state of health, and before learning on the part of the pupil can be accomplished, the pupil himself must be in a state of good health. In other words, the educator, like the business man, is more and more associating the idea of good health with the idea of great efficiency; consequently he is seeking the most practical means of bettering conditions that affect not only the health of the pupil, but the community as a whole. Naturally educators seek those practical means in the profession whose business it is not so much to aid in restoring health, but to assume a progressive leadership in aiding the natural forces and directing those conditions of environment which will most effieiently conserve the health of the community and ask them to assist in emphasizing the idea of conservation rather than restoration. The educational forces of the State, as represented in and harmonized by the Kentucky Educational Association, aspires to accomplish in conjunction with the State Medical Association and other organizations working for health conditions in the State the following specific results, and here in mentioning these results I do not claim or hope that the list is exhaustive or that it covers the whole field, but what I hope to do here is to indicate to you something of the work that we hope to accomplish and hope to have your aid in the accomplishment: 1. Closer relationship of the activities of the Kentucky Medical Association and the Kentucky Educational Association; also of the Kentucky County Medical Societies and the County Teachers' Association. 2. Such legislation and changes of executive policies as will place a well trained, patriotic physician upon the state board of education upon every city or town board of education, and upon ever county board of education. (Applause.) 3. A real practical text upon physiology and hygiene in the schools of the State. 4. Such legislation as will enable the boards of education and the boards of health to solve efficiently all problems of health arising in the public schools of the State. 5. The proper location of school buildings with regard to health. The erection of sanitary buildings, the proper maintenance of these buildings with regard to heat and ventilation and water supply, etc. 6. Thorough cleanliness and disinfection of all school buildings. 7. A local physician and teacher in every school district working in thorough harmony to inculcate ideas of health, and promote those conditions that will best conserve the health of the community.

I have tried to state briefly some of the phases of the work so that educators of the State may be of some assistance in cooperating with you in making them factors in the lives of the people of Kentucky. I think the day is coming in Kentucky. (I think it is here now) when every county teacher's institute will have on its program representatives of the county medical societies. This year gentlemen, I want to extend to you now an invitation, and even make the request, that this association send us one or two or three speakers for the program of the Kentucky State Educational Association which meets in this building the 30th of April to the 3rd of May next.

We are not approaching this problem from the standpoint of selfishness, but granting that educators are selfish in their aspirations and are looking to success along their own lines, it behooves them to seek your help, and it behooves them to help you because our problems are very much in common. In their ultimate analysis they run into each other, and we want you to help us, and we want to be of help to you, because if we have in every community of the State, in every school district, or in every few school districts a doctor who is interested in the health conditions of that community, he can cooperate with the teachers and solve the problems of health, and such a doctor is going to be of service to the teaching profession and aid us in solving other educational problems. So I say again from the standpoint of selfishness, if nothing else, the school people of the State are anxious for your cooperation, and the thing we want to do is to make the physicians of the State feel that their services, that their intervention with regard to the schools is welcome. It has been welcome all the time, and I take it that there are not many physicians in the State who have not been willing at any time to do whatever they could towards bettering the health conditions of the school. But the thing I am not so sure of is whether they have always felt their services were welcome and would be taken in the spirit in which they were offered. I feel that if the Kentucky Educational Association does nothing else but bring about that feeling between the local teacher and the local physician, its efforts will be amply justified.

I thank you, gentlemen, for the opportunity of appearing before you to-day and contributing my small mite towards the solution of these problems that are problems of the State and of no profession particularly. (Applause).

POSSIBILITIES OF CONCERTED PUBLIC HEALTH WORK BY THE YOUNG MEN'S CHRISTIAN ASSOCIATION.*

By Mr. Philo C. Dix,

STATE SECRETARY OF THE Y. M. C. A.'S OF KENTUCKY.

Mr. President, Ladies and Gentlemen:

I presume there has been some question in your minds as to what the Young Men's Christian Association has to do with the question of public health. I want to begin by saying that our organization in all of its lines of work frankly confesses itself a supplementary agency. In its relation to the religious life, it gladly gives primary place to the church. In its relation to public health, it gladly yields primary relation to such a body as this which is assembled here. In all its lines of educational work it yields the palm of leadership to the school system, seeking simply in all these lines to give supplemental help as it may be able to do. While making that statement, I may be pardoned a seeming desire for recognition on the part of our organization if I call attention to the fact that our association was perhaps the first religious organization to accept definitely the ideal of the physical man as necessarily accompanying the highest development of the spiritual man, and when we first undertook to set up the plan of the fourfold work, spiritual, physical, intellectual and social, there were many who felt there was no connection between the body and the soul, and the first gymnasium opened in this country was greeted with the most hostile criticism because it was thought there was no possible connection between the development of the physical man and the development of the type of man for which the Young Men's Christian Association usually is supposed to stand. Thus through these lines of work throughout the history of the past twenty-five years our organization has taken an advanced position in behalf of physical manhood and has made a small contribution to the public health through the emphasis it has placed upon the health of the young man and the boy. You have not thought that every gymnasium in this State under the auspices of our organization stands ready to preach the gospel of physical exercise in its relation to public health. I want you men to realize to-day that for ten years past physical education in the Young Men's Christian Association has recognized as its ideal the well rounded physical development of men and boys and has thus made no small contribution to the public health through its physical department. If a man never becomes a Christian, but takes an interest in our gymnasium, if we help him to be more efficient in his daily life, we think we have made a contribution to the public good and to the health of the individual man. (Applause). Through our reading rooms, through our public health talks by some of the physicians present who have been invited to lecture, through the courses of study in our evening schools, through the encouragement of reading suitable books giving the right instruction in matters of hygiene and care of the body, the association has sought to carry on an educational propaganda, and the effects have been far reaching for good. Through its baths and swimming pools, the association has sought to emphasize the old truth "That cleanliness is next to Godliness," and through this latter function we have sought in recent years to make another contribution to public health; we have thrown these pools open for the purpose of teaching swimming to every boy in the community, the boys receiving proper instruction, so that they may be enabled to save life from drowning in case that emergency arises. That is one instance of the practical effort which our organization is making. One of our functions has been to teach first aid to the injured. Through the boy's department, through the organization of boy scout patrols, the association is seeking to teach men and boys to render help to the injured before a physician can arrive. Do not be afraid that we are going to take away any jobs from you, because that is one of the things we are trying to impress very deeply, that a physician must be summoned at once in case of injury, but first aid is that which should be given before the physician can arrive.

I hesitate in this mixed audience to say what I am going to say, and yet I think I should speak of one of the contributions which this organization has sought to make to the public health problem. I speak frankly and seriously about the great black plague, which is the curse of our country. Our vital statistics do not show very much in the way of deaths, attributed directly to the black plague, to sexual diseases, and yet the physicians here assembled know as well as I do that these diseases are very prevalent. The Young Men's Christian Association for years past has sought to bring to bear all its force upon this great problem not only in our own State but in other states, the first effort being along educational lines, and in so doing we have sought the cooperation and aid of the entire medical profession. One of the largest contributions along this line has been that members of your profession have discussed these subjects before numerous audiences of young men in the various associations and they have discussed frankly and seriously the great problems which arise in the life of every young man. We have also sought to promote the intelligent treatment of the sex questions in our country by the dissemination of literature which has the stamp of medical approval and by such personal counsel as we can give and it is our hope to make an important contribution along this particular line.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

I would like to call attention to the fact that there is not now in Kentucky, as there should be, and as there is in most of the other states, a society which has for its express purpose the spread of information and the stimulation of interest in this great question. I have been in touch for some years with the American Society of Sanitary and Moral Prophylaxis, of which Dr. Prince Morrow is president. He has been anxious to develop interest in this work among the medical profession, among the public schools and the leading educators of the country. We believe that some distinctive efforts should be made along this line in Kentucky. I hope there will grow out of the meeting of this society at this time an effort on the part of this group of men to fight false modesty. We should stand for the proper education of the boys and girls about the great questions which concern their own lives—questions which are of the utmost importance to them as they look forward to maturity, to fatherhood and motherhood, and that we should put forth a propaganda which shall be worthy the name, worthy of this profession and of the other interests which I have mentioned, which shall call the attention of all those agencies to the great need for improvement along these lines.

In conclusion, I wish to speak a moment on what I consider an interesting line of effort we are just now promoting, in which we are supplementing the activities of the representatives of the medical profession. I will not take time to discuss the work we are promoting in the Kentucky Mountains. We have had some interesting moving pictures depicting the conditions in some of the mining communities, and you will be glad to know that our organization has ten associations established in these remote mining communities, and that in these communities one of the purposes for which we exist is being carried out, namely, the promotion of the public health, supplementing the work of the company doctor, and in some cases arousing interest on the part of the company doctors and other physicians in improving moral conditions, and encouraging the people themselves to clean up their back yards and promote sanitary surroundings, educating them by moving picture shows. Everyone of the associations will have a moving picture exhibition which we think will do much towards inducing the public to take an active part in behalf of public health.

WHAT IS THE OPPORTUNITY OF THE MINISTER TO ASSIST IN PUBLIC HEALTH WORK, AND HOW TO SECURE HIS ACTIVE ASSISTANCE.*

By Dr. E. L. Powell, Louisville.

PASTOR OF THE FIRST CHRISTIAN CHURCH.

Mr. President, Ladies and Gentlemen:

I am ashamed to come before you without a prepared address. You doctors, I observe, do not treat your fraternity or brothers in such fashion. I do not know but that the doctor has a better conscience in such matters than the preachers. (Laughter). I have not heard one man in this association presume to appear before this body without a carefully prepared essay.

There is a question about which we can talk, and it does not need profound medical knowledge to talk about it. It does not require a carefully prepared paper in order to present it. That question is a better acquaintanceship between the doctor and the preacher, between the church and the medical fraternity if we are going to arrive at that happy goal, when all of us, representatives of all these organizations, shall work together and work definitely and work with a clear, clean-cut definite end to be accomplished. I do not believe that the preacher and the doctor have until this good day gotten acquainted with each other. You doctors have thought of the preacher as a pale, anemic, colorless individual, who spends a great deal of his time in spiritual esthetic and aspirational exercises, wanting altogether in good rich blood, a sort of a sisssy kind of creature that is neither male nor female, and the result has been not until now have you ever called on him to help you out in this business. You have simply patronized him. I do not want to be to hard on the preachers who have not got money to pay a doctor for services rendered, but I tell you, and it has been my conscientious conviction for a number of years, despite the fact that I have been a beneficiary of your skill, free of charge, on more than one occasion, I believe that you ought to have sufficient respect for the minister to make him pay. (Applause). Now, you have got to know the preacher. You have got to understand the man who is interested in the same things that you are interested in, and whether he is a man who is especially and particularly interested in whatever pertains to the physical and mental and moral and spiritual welfare of the community. You must remember that he is not aloof in that; that he is not a sort of academic specimen brought out on Sundays like the furniture of his own pulpit to be looked at and to be set for that one particular time, and then to retire with a gracious smile and be thanked for the services which he has rendered. Do believe he has got muscles; do believe that he has got brains and conscience; do believe that he is a man; do believe that if he does wear a gown once in a while when he gets us in a pulpit to preach, that he is distinct from a woman, grand as women are. (Laughter). Now, you want to know the preacher and the preacher wants to know the doctor if we are going to cooperate. I am frank to say, that the notion which a great many of us have had of the doctor is, in the first place, that he knows a whole lot more than he does know. I heard an address by Dr. Wiley, of national fame, delivered before a company of doctors in which he made a plea for greater simplicity in writing your prescriptions, to strip them of modern medical terminology.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

I heard my friend, Dr. Ray, tell us something about medical terminology in that wonderful essay which he read this morning. He called a lot of things by their technical names. If you doctors in entering the sick room were to talk to a preacher in that technical way you would scare the life out of him. (Laughter). You do not teach him anything. The point I make is this; you must relieve the preacher of the embarrassment occasioned by your massive learning. (Laughter). You must tell him just what he wants to tell the people. If you want to tell the people what is the matter, call it by some name the people can understand. If we are going to bring about enlightenment on the part of the people in regard to the ills that afflict humanity, we must use plain language that they can understand. You tell us that tuberculosis is curable, and the sort of treatment that has been found to be good for it. These specifics, nostrums, etc., we have to guard against. You tell us that the dangers connected with impure food and adulterated drugs, and we can understand and talk about them. When you are going out to teach the people, as the President of the American Medical Association said last night, since you have recognized what the people have a right to demand, you must preach to them in as clear, simple and forceful language as possible. So if you talk to the preacher in language he can understand, the preacher in turn can take up these questions of health and disease and present them in such a way as to put a moral foundation back of them.

One of the speakers this afternoon spoke of the fact of conscience in the practice of medicine, conscience in the practice of surgery, a conscience that did not need to be anesthetized. A fine thing that, a dangerous thing that, and the doctors may as well confess their sins like the preachers are getting to do now. You are not perfect, my dear friends, and the people are finding that out. They are beginning to see that doctors must not be false, that they must not be quacks, but that doctors must be learned, and that they must, at the same time, meet the requirements of the public. They must not do things that are not right. What does that all mean? That the era of conscience has come, as well as the era of popular comradeship has come to the medical profession. And so the era of the relation of the preacher to the doctor is one of frank, open enlightenment, not embarassing him by so much knowledge and learning about pathology, which need not be presented in technical language. What I want to say is this; you want the preachers and teachers to work with you in the promotion of the public health. I am sure, all of us, doctors, preachers, and educators are eager to promote the public health; but the difficulty on the side of the church, it seems to me, has been conventionalism for one thing. We are afraid to do certain things. It was really a question whether we should let such a body as yourselves into this church and hold a meeting. (Laughter). It was a question on the part of the women of the church, but the objection was finally overcome. Some of the women thought you were not altogether religious; that you were a little bit shy on religion; that you were materialistic; that because you cannot find with your scalpel a conscience you come to the conclusion that there is no such thing as conscience, or because you cannot go down with your scalpel and find the soul and see it with a microscope and analyze it, there is no such thing as a soul. So you see we were a bit afraid of you. (Laughter). The fact is, it is our miserable conventionality. The point I want to make is, that there is no religion worthy of the name that is not hospitable and cooperative, and that has to do with body, soul and spirit. (Applause).

It is a splendid thing that the churches observe tuberculosis Sunday. Only a little while ago it would not have been thought proper to talk about things except they were sacred. What is the difference between the sacred and secular anyhow? Everything that is secular is considered devilish. Why? Because it has not been touched with the right aim, with the right thought, with the right feeling, with the right conscience. That makes it secular. And all else whether it be in medicine, or education, or cleaning streets or making shoes, or whatever it may be, if it is making the world any better, if it is making humanity better, is the purpose of religion. I tell you what I honestly think about you doctors; I believe you are getting religion. In becoming so intensely interested in promoting the health of the people, you are getting interested in the fundamental religious question. That is a part of religion. You cannot have any religion, I do not believe, that the world will accept unless it is based on a sound body. Think of a man with indigestion going to his prayers. (Laughter). What can you do with one of those nervous, broken-down creatures as he tries to sing hallelujah, Praise the Lord. The quality of religion is dependent upon health. A religion that is crossgrained and irritable is not worth much. True religion is optimistic, opulent, enlightening, healthful, serviceable, enthusiastic, with all the outlook of faith, with all the shining hope, with all the glory that looks into the things that are to be. When we talk to the real question, you doubtless must help us to get good. To bring it down to the point of health, people want ideals that are borne out of a sound mind and a sound body. What can you expect out of a mind that has a starved, anemic, diseased soul? Did you ever hear of a civic ideal borne out of that kind of soul? It is impossible. As long as the body is diseased you cannot have idealism. If we preachers, educators, and members of the medical profession want to get into the realm of idealism we must joint together and seek health first, and then we lill dream dreams and see visions. (Applause).

WHAT IS THE OPPORTUNITY OF THE MINISTER TO ASSIST IN PUBLIC HEALTH WORK, AND HOW TO SECURE HIS ACTIVE ASSISTANCE.*

By Dr. W. W. Landrum,

PASTOR OF THE BROADWAY BAPTIST CHURCH, LOUISVILLE.

Ladies and Gentlemen:

While I cannot speak as movingly as Dr. Powell, I wish to call attention to the fact that you have assigned a particular subject, and I shall try to talk on this subject and not speak about the relations which exist between the ministry and the medical profession.

What is the opportunity of the minister to assist in public health work and how to secure his active assistance? The time was when many people spoke of religion as though it was a sort of life insurance policy against fire in another world. (Laughter.) George Elliot said that we had too much of "other worldliness" in our sermons and not enough this world, that our hymns treated too much of the sweet bye and bye, and not enough of the glorious now and now. Let me say to you, that whatever may have been true in the past, the modern minister believes in the life that now is with all its sweetness and happiness, as well as in that which is to come.

Salvation, which we believe to be the biggest word in the dictionary of the human race, as well as the grandest thought of Lord God Almighty concerning us, means the salvation of body, the salvation of mind, salvation of spirit, and the salvation of soul. It is the salvation of the whole man; it is the salvation to oneself; it is salvation to one's community. It is the salvation to one's church and community. It is salvation from ignorance to knowledge; it is salvation from disease to health. It is salvation from narrowness to breadth of view and altruistic service.

The preacher of to-day teaches that health is the first word. He preaches that doctrine. He preaches, as my friend Dr. Powell has told you, that our physical experience comes out of a physiological basis. It does not mean, of course, that we believe in a physiological soul, but we do believe in a physiological basis for all our spiritual activities. I believe it was Ruskin, a man who did more for the modern preacher than any other Englishman of letters, who said we are telling people to-day that the refrain, "Holy, Holy, Holy, Lord, God Almighty," might be rendered in these lines, "Healthy, Healthy, Healthy, art thou, Lord God Almighty." In other words, we are trying to teach people that health is normal, and that ill health is abnormal. We are telling people, as you doctors are telling us, about the vis medicatrix naturae. We are telling them, without disparaging you, that the best physicians are Dr. Diet, Dr. Quiet, and Dr. Merryman. We are telling them, too, that the spirit of man has much to do with the treatment of disease.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

I underwent a surgical operation of a more or less hazardous kind about a year and a half ago in this city, and I listened with a great deal of interest to-day to one of your doctors in speaking of operations, because he told me how I felt before the anesthetic, when I did not feel at all, and the pains I had afterwards and so on. He laid emphasis, as we do, on what we might call mental therapeutics. He laid emphasis on the fact of the spirit of man before he goes under an operation, the spirit of faith and hope and love; the spirit of confidence in the surgeon; the spirit that yields himself absolutely to one whom he believes is a master of his calling, and who looks upon him not merely as a patient, but as a friend and brother, trusting his body to the physician, just as I have trusted my soul to the Great Physician. (Applause.) I had no nausea after my operation. It was an exploratory operation, but I never look back on it without thanking the good surgeon who did the operation.

We are going to preach the right view of health, and besides that, as we go into the homes of the people we are going to tell them that health is as catching as disease. Is it not true that health is just as catching as disease? When we go into a home we should not encourage introspection. The old minister on meeting a person would ask, "How do you feel?" We never ask that question now. How many people have answered that question by saying ,"I am feeling poorly, thank the Lord." (Laughter.) How many return the answer, "I am enjoying very poor health," and that is what they were doing. They enjoy getting the minister to come to see them and say some pleasant things to them, that he might supply the therapeutic power of social intercourse that the doctor did not have time to give in the limited interview which he had.

I want to say another thing, that the minister can do as much if not more than anybody else, to sit down on the quack and the patent medicine man. A friend of mine, in order to rebuke a certain patent medicine company, sent back a letter of this kind: To the proprietors of the Electric Bitters Company: Gentlemen, I wish to thank you for the four bottles of the remedy which you sent me. It is a veritable catholicon. Since taking these four bottles the most wonderful changes have taken place. I was born without liver and without lights, but since drinking these bottles of medicine I have not only a good, first-class liver, but two electric lights. (Applause).

Besides that, with his public preaching and ministry in the home, he can sit down upon quacks. He can show a good example by having health himself. These are the things that have occurred to me as a minister whether upon the platform or in the home, or in personal example. I believe a minister who is ill has to apologize to God and to his physician, and he has to apologize to his congregation. I do not mean that we shall never be sick or ill. Not at all. But I do mean that we should make health a conscientious duty, and that we cannot preach healthy sermons without being ourselves healthy men. When we need a doctor, we need him very much. We are not like those who say when a man died without a physician the coroner is called to ascertain the cause of death, but when a man dies after having a physician, no coroner is called in, because the cause is very evident. (Laughter.) We believe in the doctor.

I want to tell you of five things. What can we do to interest our brother ministers? In the first place, I ask you to put them on your mailing list. That is the first thing. Send them all the documents that you have; the documents of this society that can be had free for the asking. Possibly they will not ask for them. Require them to receive if they do not ask for these documents. To be sure, they have waste baskets, but I believe they will read what you send to them and they certainly need no invitation to make a speech at your meetings. We all like to talk, and feel sorry if we do not have an opportunity to do it. In the second place, I would ask for a certain day, a tuberculosis day. The church calendar is always crowded. We have children's day, mothers' day, and now perhaps fathers' day and tuberculosis day, and we may get an anti-saloon day until sometimes we feel there is very little time to preach the blessed gospel of God. In the third place, from what has been told you this afternoon, we ought to have at least one day in Kentucky when hundreds and thousands of people can be taught the relation of health to religion. (Applause.) In the fourth place, it would be a good thing to appoint a preacher and teacher on every medical board in your county. That has been suggested by someone. In the fifth place, and my last request, invite some minister to prepare a resolution to bring before the state board of the denomination to which he belongs asking the appointment of a standing committee that shall aid you in carrying out the sanitary laws. (Applause). Now it so happens, that I by the providences of God over which I have no control, represent the largest body of Christians in this State. If these statistics of Kentucky are correct, the people whom I represent are more numerous than the Roman Catholics or the Protestants, perhaps as numerous as all other Protestants put together, including both races, so that we Baptists are the chief sinners. There is a responsibility which under God I feel every time I am told about the illiteracy in Kentucky or about the diseases of Kentucky; that it is our people more than any other people in Kentucky we are responsible under God for not putting our arms around two million of people and lifting them up out of filth and disease because we are the people. (Applause).

Now, gentlemen, I want to congratulate you on your meeting. You have said more things in the shortest space of time than any convention I have ever attended in my life. I have been edified from beginning to end. I thank you for allowing me to speak. I am sorry I have been compelled to rush along so rapidly, but I have not had time to develop the thought I have brought before you. Let me give you this benediction: The Lord love you all and take you—but not yet. (Applause).

ANTI-TUBERCULOSIS CAMPAIGN.*

By U. V. Williams, Frankfort.

Having been designated by the President of the Kentucky State Medical Society to represent the Tuberculosis Commission at the meeting of the present session of this body, as well as by the President, (Governor McCreary), of the State Tuberculosis Commission, to perform the same duty at the same time and place—an honor which I duly appreciate and gladly accept, craving both your charity and patience.

I shall not bore you with a repetition of statistics of its prevalence or its fatal consequences, its deadly blight and its heretofore resistance to all known means of cure, confining my efforts to proposed propaganda and practical work as forms the program of the Tuberculosis Commission as outlined at its formal organization recently, and which is fully set forth in detail and in *extenso,* viz.:

1. The primary responsibility resting upon the commission is to secure accurate information regarding tuberculosis in the State. This being so, the Commission should avail itself of every agency in the State working toward this or any closely related end. The State Board of Health, through the Bureau of Vital Statistics, is making every effort to gather authentic data on tuberculosis as well as other diseases; the Commission, therefore, should establish the closest possible working relations with the State Board of Health to the end that:

(a). The information that the State Board has, should be available for the Commission.

(b). That needless duplication of effort should be avoided.

2. With definite information at hand regarding the disease, two definite courses would seem advisable:

(a). Carrying forward an active propaganda of education, to the end that the people of the State may be informed as to the nature of the disease and the means for its prevention.

(b). Encouraging in every way local subdivision of the State, i. e. counties and municipalities, to take up an active practical campaign against the disease.

These two suggestions will be considered more at length, thus:

(1). As part on an active campign of education it is suggested:

(a) That a traveling health exhibit, similar to the health car maintained by the Kentucky Association for the Study and Prevention of Tuberculosis, be placed upon the road, and that the State be covered as rapidly as is consistent with painstaking work. It is assumed, as part of this exhibit, that illustrated lectures will be given in each community visited by a competent and qualified lecturer; and further, that carefully prepared literature will be distributed on these visits.

(b) In connection with the visits of this car, that every effort be made in the localities visited to organize local associations to study the disease and work towards its eradication. The proposed activities of such local associations will be considered later herein.

(c) So as to drive home the plain truths about the methods of handling the disease, that one or possibly two trained nurses, expert in this disease, be employed to follow up the health car and to illustrate to the communities visited, the method of handling the patient in his own home so that he will learn at one and the same time how to care for himself and how to guard against infecting others. It is believed that such a process of education will bear further fruit in encouraging communities to employ permanently such a visiting nurse.

(d) To arouse the local health authorities to a proper realization of the ravages of the disease and the possibilities of its prevention, and likewise to secure the co-operation of the school authorities, school teachers, clubs, clergy, etc. The question might be considered of securing the adoption into the school system of a text book on health and hygiene.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

(e) Reports of the progress and work of the Commission should be prepared in plate form and sent to the press throughout the State monthly or bi-monthly for publication.

(f) Arrangements should be worked out to set apart one day in each year to be known as Tuberculosis Day, and an effort made to get the churches and school authorities throughout the State to recognize it.

(1) To select one or two of the more prosperous counties in the State and endeavor to crystallize public sentiment on the establishment and maintenance of a county sanatorium as provided in the Act.

(2) To endeavor to get two or more contiguous counties to create a tuberculosis district and establish and maintain jointly a sanatorium as provided in the Act.

(3) To make every effort to shift the actual responsibility for combatting the disease upon local community by

(i) Not only in organizing local associations for the study and prevention of the disease, but in co-ordinating the work of every social agency in the community concerned with the community's welfare, i.e. Health board, county and municipal medical societies, school authorities, woman's clubs, relief agencies, etc.

(ii) To encourage the municipality, if possible, to establish and maintain a free tuberculosis dispensary, or to seek to secure it through the co-operation of the municipal and county authorities and voluntary organizations.

(iii) In connection with and as part of the foregoing to encourage local organizations to establish and maintain at least one visiting nurse, as is now being done in a number of municipalities in the State.

Obviously the seriousness of the situation outlined and the nature of the work to be done, calls for a field man expert in every phase of social activity. The problem, while in one aspect is medical, is on the other hand largely social. The disease is tied up everywhere with poverty, bad housing and living conditions and innumerable other questions of social maladjustment. Bearing this in mind a man should be selected to carry on the field activities of the Commission who knows tuberculosis as a social and community problem; one who has had the necessary executive training to fit him for the difficult administrative work that this part of the Commission's duties call for.

TREATMENT.

As regards treatment for tuberculosis, the public should be warned against fakers and nostrums which waste energy and finances and invariably result in great harm.

In seeking a treatment we must consider the natural curative powers of the body rather than drugs, or nostrums, as shown by the fact that the reports of pathological laboratories in this country as well as Europe show tuberculous lesions in more than half of all cases examined post-mortem.

It is a fact that almost every one is or has been exposed to the infection of bacillus of tuberculosis. All do not contract the disease, indicating most conclusively that the bacillus alone is not of sufficient virulence to give rise to pulmonary tuberculosis. The best soil for its propagation is found in the tissues of the deteriorated organisms.

The lessening of the powers of resistence to pathogenic agents and the lowering of the vital status must be regarded as the cause of the fatal malady. It is a patent fact that it is impossible to destroy the tubercle bacilli, once lodged in the lungs, such bactericides would be equally destructive to the lung tissues, hence, the failure of all agents directed to that end.

Supposing such could be the case, it would be no protection against future infection and invasion, which is of constant menace. A patient once infected is proof positive that the resisting power of nature is defective. The most important consideration is to build up the vital resistance; improve the quality of vital tissues; raise the vital status and recover the original ability to resist the invasion of organisms.

The body itself offers the only healing powers, and offers the only safeguard against invasion. It has been said in Holy writ, that the blood is the life, and modern research has shown it to be the healing agent and to improve its quality, the only great decideratum. Improve its quality and increase its movements through the diseased parts, are the most essential things to be done.

Direct therapeutic agents are misleading and valuless. Inhalations of all kinds—found wanting and useless and often injurious.

Open air, proper diet and graduated exercises are all helpful influences upon metabolism and blood movement, are alone to be relief upon for satisfactory results.

Exercise for heart and respiratory movements. Fresh air acts through thermic influences, promotes vasomotor and metabolic changes; rest lessons excretions and diminished respiratory movements as well as retards blood movement, and lowers vital resistance.

Too violent exercise tends to elevation of temperature and should be very properly safeguarded, as a rise of temperature favors the oxidation of nitrogen; causes muscular wasting and lessens glandular activity.

The skin in its functions is intimately connected with the lungs. In its anatomical construction, differs only from the mucous membrane lining the air passages and intestinal tract in its outer layer—the epidermis.

The baths, hot or cold, or both, applied to the skin, is the most powerful of all means in producing and increasing vital energy and resistance to morbid influences in the body. It encourages tissue change and blood making: means which are of vital importance in both defensive and curative properties. It elevates arterial tension by increasing the vascular tone and promotes circulation of the blood through the body. It increases the appetite and promotes assimilation. It increases the secretion of the gastric juices—and *per force* is our most important factor in nutrition, and is a powerful aid to beneficial effects of cold air, pure air, sunshine and exercise.

There is no specific medication or nostrum although there is more than half a thousand advertised for the cure of tuberculosis. Neither is there any bactericide, which will destroy the tubercle bacillus that would not be equally fatal to the tissues of the body.

In the Blood, by the Blood and from the Blood, our only hope.

CASES OF CEREBRO-SPINAL MENINGITIS WITH DEDUCTIONS.*

By E. B. Bradley, Lexington.

In a small epidemic of cerebro-spinal meningitis in Fayette county during the spring of this year, the writer had opportunity to study nine cases of this disease, and one other case was treated in January of last year.

In September, 1909, the writer through the kindness of Dr. Simon Flexner was furnished with a supply of his anti-meningitis serum and since that time lumbar punctures have been made in all cases presenting symptoms of meningitis. In six cases tubercle bacilli have been found in the spinal fluid, in one the influenza bacillus, in two pneumococcus, and in quite a few no organism was found; most of these last were doubtless tuberculous.

However, it is the true epidemic cerebrospinal cases that form the subject of this paper.

A brief synopsis of a few of these cases may illustrate them all.

CASE I.

A girl of 19 years, was taken with headache, chill, and vomiting at three o'clock in the morning, had a slight convulsion and became comatose at three that afternoon, had had convulsive twitchings all day. Pupils at times had been irregular, passed urine twice but bowels had not moved. Petechial spots appeared over her body during the day and her head became retracted and her neck stiff. Temperature 105, pulse 120.

Seen at 8 p. m., the same day, the picture was as above: comatose, head retracted, neck stiff, cried out with pain on lifting head, pupils equal and react to light, petechial eruption over entire body, marked Kernig sign, knee jerks exaggerated, *tache cerebrale* marked, retention of urine with 8 ounces in the bladder.

Lumbar puncture showed a cloudy fluid of which 22 c.c. was withdrawn and replaced with 30 c.c. anti-meningitis serum. Microscopic examination of the spinal fluid showed much pus with the presence in large numbers of meningococci both intra and extra-cellular.

On the next day the improvement in the condition of the patient was marvelous; she was talking, asking for water, and her temperature had dropped to 102 with a pulse of 100. On puncture, the fluid was still cloudy and 30 c.c anti-meningitis serum was given.

Improvement was made each day thereafter but the fluid continuing cloudy and still showing meningococci, she was given altogether six doses of 30 c.c. each of the serum. Her recovery was uneventful except that as she got well she had some stiffness of the joints for a month or two and was left completely deaf in one ear.

CASE II.

A child of four years was taken sick two or three days previously with the what the physician diagnosed at pneumonia. Seen March 26, 1912, shows opistotonous, a very positive Kernig sign, and is semi-comatose, with a temperature of 103 and pulse of 130.

On lumbar puncture 15 c.c. cloudy fluid withdrawn, replaced by 15 c.c. anti-meningitis serum. Examination of fluid showed many menigococci both intra and extra-cellular.

The next day the temperature had dropped to 98.8 and child appeared slightly less stupid, 15 c.c. serum given intraspinously. On the next day the child was much better, recognized members of the family and asks for food. The spinal fluid is clearer but 25 c.c. of serum was given, and this was followed after twenty-four hours with a dose of 15 c.c. The only symptom of the disease persisting was the retraction of the head, this gradually disappeared and on April 4 the case was dismissed as well.

Three weeks later the child was deaf in both ears and this condition has persisted and is permanent.

CASE III.

Shows the darker side of the picture. This patient, a tobacco-farmer, aged 30 years, had had a severe headache for several days that refused to yield to usual methods of treatment, the day before he had some stiffness of the neck. Seen on March 29, 1912, he was restless, his neck rigid, Kernig sign marked, temperature 101, pulse 78. No other symptoms. Lumbar puncture showed a cloudy fluid and he was given 15 c.c. serum. This dose should have been larger but patient complained and moved around so that it was not safe to leave needle in place longer.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

The next day he was much worse, temperature was higher and he was more restless. He was given 30 c.c. serum.

The following day he had lapsed into deep coma with Cheyne-Stokes type of breathing and, although serum was administered it was with faint hope and the patient died three or four hours later. Except for the rigidity of the neck and the fact that there were other cases of epidemic meningitis in the vicinity the diagnosis in this case would have not been made early enough to have given the serum a fair chance. The spinal fluid in this case was found to contain the meningococcus.

These three cases are fair samples of all the others and I will not cite the others except in the summary.

ETIOLOGY.

Of the ten cases one was a sporadic case and nine occurred within two months in Fayette county. Of these nine, there was but one instance of two cases in one family and investigation failed to show any possible connection between any two of the other cases. They lived miles apart, attended different schools, if any at all, and the younger ones had not been on the street or to any public gatherings. Six cases lived in the country white another had within a week or ten days moved into town from the country, and still another lived on the very outskirts of Lexington, leaving but one case and that the only negro in the series who lived in the city. The contagion of the disease is spread in some manner at present unknown.

SYMPTOMS.

In all the cases the symptoms were rather typical. In all there was headache of severe type, stiffness of the neck, and Kernig's sign was present. In nine cases there was marked retraction of the head, so that the diagnosis was suspected at a glance. In three cases herpes on the lips was present, and convulsive movements were noticed in four. A fine petechial eruption, the eruption that has given this disease the name of "spotted fever," was found in only one case and in this it was very profuse, covering practically the whole body. A state of coma, more or less complete, occurred in six cases and there was delirium in several. Vomiting and chill at the onset was common.

DIAGNOSIS.

The diagnosis was made in every case by the finding of the meningococcus or diplococcus intracellularis in the spinal fluid withdrawn by lumbar puncture. In eight of the cases this fluid was very cloudy with pus so that the diagnosis was almost certain at the time of puncture and the other two cases showed a slightly cloudy fluid.

TREATMENT.

The treatment was practically the same in all cases, this consisted of injections into the spinal canal of successive doses of anti-meningitis serum. The serum used was in some cases that prepared at the Rockefeller Institute, in others Mulford's, and in still others that of the Department of Health of New York City.

METHOD OF ADMINISTERING SERUM.

In all cases where lumbar puncture showed a cloudy fluid, this was replaced by serum. After the diagnosis was assured by the finding of the meningococcus, treatment was continued until the cocci disappeared from the fluid. The dose at each injection varies from 15 c.c. to 40 c.c. depending upon the amount of spinal fluid withdrawn, the age of the patient, and how well the injection was borne. In the early cases a syringe was used for the injection but this was later abandoned and the serum allowed to flow in by gravity, there being less danger of causing too much pressure by the latter method.

The quantity of serum given to the eight cases that recovered varied from 35 c.c. to 180 c.c., the average being 80 c.c.

Aside from the serum the only treatment given consisted in the administration of bromides and chloral to control the restlessness or convulsions.

COMPLICAT|ONS.

Excepting the two cases of deafness, one total and the other partial as reported in cases 1 and 2 above, the complications were few. Retention of urine was troublesome in two cases, one, a girl of sixteen had to be catheterized for six weeks before she gained full control of her bladder. One case, a boy of 10, about two months after his recovery from meningitis was brought to the hospital for "spinal trouble." At the 11th and 12th dorsal vertebrae he had an angular prominence, and on stooping he kept his spine absolutely rigid at this point. His condition was diagnosed by the attending surgeons as tuberculosis of the spine. They gave the opinion that it was not related to his meningitis. However I mention it as being interesting.

PROGNOSIS.

Of the ten cases, eight recovered and two died, one of the two that died was practically moribund when first seen on the fourth day of the disease and death ensued within 12 hours after the first treatment. Excluding this case, the mortality of the series is a trifle over eleven per cent. which just about reverses the ratio before the serum days when about ten to twenty per cent. recovered.

CERTAIN SURGICAL CONDITIONS OF THE UPPER RIGHT QUADRANT OF THE ABDOMEN.*

By Woolfolk Barrow, Lexington.

There are so many conditions that come up in surgical practice that I have been in great doubt as to the selection of my subject. Shortly before receiving the invitation to read this paper, I saw three extraordinarily interesting cases. Two of these cases were so puzzling that I failed to make the correct diagnosis before operation. One case proved to be at operation, pancreatitis. Ante-operative diagnosis was acute suppurating appendicitis. The second case was chronic pancreatitis plus cholangitis. This case was diagnosed cholelithiasis. The third case was one of abscess confined to the lesser sac of the peritoneum. The abscess was due to a perforation of the gall bladder by a stone. The diagnosis was a stone in the common duct plus a chronic pancreatitis. I doubt not that you have all seen similar cases and sometimes experienced great difficulty in arriving at a diagnosis. These cases suggested to me my subject, "Certain Surgical Conditions of the Upper Right Quadrant of the Abdomen." This region to my mind is one of the most important of the body. There are so many important structures, and they are in such intimate relationship that successful treatment is very difficult. A surgeon, when operating in this field must be prepared for any emergency or operation. It is often impossible to map out your intended operation as the lesions will be different from what you expected, or you will find complications that will tax your ingenuity, to successfully cope with.

In the upper right quadrant are found the liver, biliary system, pancreas, stomach, duodenum, and hepatic flexure of the colon, right kidney, glands, blood vessels, and sometimes the appendix. In this paper, of course, it is impossible to discuss all the lesions of these structures, so I will take up only those lesions that we are most apt to encounter. Before taking up the diseases, I believe that something should be said of the anatomy of this region. I do not wish to give the detailed anatomy, but only to impress upon you the close relation of the structures in this region. The hepatic duct formed by the union of the right and left bile ducts, in the transverse fissure, runs down in close relation to the hepatic artery and the portal vein. At the hilum of the liver, it comes in intimate relation with the lymphatic and nerve supplies. Just beyond the portal fissure it joins the cystic duct to form the common duct. The gall bladder lying on the inferior surface of the liver may be in contact with the first portion of the duodenum, the pylorus, or the body of the stomach, or if depressed downward it may be in contact with the transverse colon or the anterior surface of the right kidney. The the foramen of Winslow between the layers of common duct passes downward in front of the gastro-hepatic omentum behind the first portion of the duodenum by the head of the pancreas to the second portion of the duodenum where it enters at the papilla. Almost one inch above its opening at the papilla is the opening of duct of Wirsung unless the latter joins the common duct at the opening into the duodenum. The common duct is often surrounded by the head of the pancreas. The pancreas lies behind the stomach, below the liver, and its head is surrounded by the loop of the duodenum. The right kidney lies below the head of the pancreas. The appendix is sometimes located high up underneath the liver. An accurate conception of the anatomy will render many diagnoses of conditions in this region very easy. "The first real difficulty in the surgery of this region is the diagnosis. The first avoidable danger the ill-considered and mistaken diagnosis." To determine what must or what may be done, the first thing to consider is the pathology. Upon a thorough knowledge of the pathology depends the prognosis. The prognosis is usually all that the patient and his relatives care about. In trying to reach a complete diagnosis of lesions in this region, each symptom and sign must be analyzed. It is not sufficient to say that a patient has a gall stone, but it must be determined exactly where the gall stone is situated.

The conditions most likely to be found in this region are cholecystitis, cholelithiasis, stone in the cystic, common, or hepatic ducts, ulcer of the duodenum or stomach and pancreatitis. The diagnosis of one of these lesions, if uncomplicated, is very easy. Unfortunately, the pathological process is not often confined to only one organ, but to different parts of the same or different structures.

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*Read before teh Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

Probably the most important aid in making a diagnosis is the history. The surgeon should go into details, question and cross examine the patient until absolutely every symptom from the first is elicited. The age, sex, occupation, etc., should be considered. Certain general considerations should be weighed as evidence. For instance, in gall stones about 80 per cent of the cases are in women. Cholelithiasis is not a disease of youth, the majority occurring in patients of middle age and upwards. Ulcers of the stomach are very slightly more frequent in women than in men, whereas ulcer of the duodenum occurs in men almost four times as often as in women. Ulcer generally found in young adults. Pancreatitis (hemorrhagic) is most often found in stout well nourished individuals who are strong and in good health.

The most prominent symptom of disease in this region is pain. Without pain, a diagnosis of a lesion in the upper right quadrant is almost impossible. The most notable exception is cancer of the head of the pancreas, or some part of the biliary tract. The character, frequency of attacks, duration, and extent of the pain should be carefully noted. It, of course, may be very slight, but a careful history will elicit the presence of at least some pain at some time. In gall bladder disease, it is variable, its severity depends on the degree of obstruction, on the degree and extent of the inflammation, etc. It may be paroxysmal or only a heaviness. In gall stones, it usually begins suddenly, usually accompanied by little or no rise of temperature, if there are no complications present. Is located to the right of the median line over the gall bladder. If adhesions are present, it may be most prominent on the left side. The pain is often referred to the back and upward toward the right subscapular region. Pressure in the right hypochondrium increases the pain. It bears no absolute relationship to the time of taking food. Associated with or following the pain is tenderness. It is most prominent at Mayo-Robson's point or sometimes most pronounced beneath the outer border of the right rectus muscle. Often there is tenderness, two or three finger breadths, to the right of the spine of the twelfth dorsal vertebra. The pain in ulcer of the stomach is very different from that just described. It is usually in the mid-line or just to the right It may be anything between an uncomfortable feeling in the pit of the stomach to a very severe sharp or burning pain. It does not radiate to the right shoulder as in cholelithiasis, or down to the penis or testicle as in kidney stone, but is restricted to the epigastrium or sometimes to the left subscapular region. It bears a direct relationship to the ingestion of food. It comes on from one-half to three hours after eating. It is greatest when the stomach is empty. It is relieved temporarily by food, and benefited often by large doses of some alkaline substance as sodium bicarbonate. Pressure over the stomach often somewhat relieves the pain. The pain in duodenal ulcer is not usually so sévere as in gastric ulcer. It does not come on for three or four hours after eating. Does not radiate, and is worse in the epigastrium.

In acute pancreatitis, the pain is very severe. Located to the right of the median line and just above the umbilicus. Often referred to the back. It is associated with great shock.

Although pain and its variations is so important in making a diagnosis, still it is necessary to have other data before the diagnosis is complete.

Jaundice, when present, is very important. Although too much importance must not be given to its absence. The history should be very explicit as to the presence of absence of jaundice at any time. Whether it was intermittent, variable in intensity, etc. It may be present from a blockage of the common duct as a stone or by something outside the duct as by a pancreatic growth, or adhesions pressing on the duct. Cholangitis plus a stone is the most frequent cause.

The diagnosis of pancreatitis is very difficult. It may be suspected, but a positive diagnosis is made in less than one case in ten. It may be easily confused with intestinal obstruction, or most any of the acute lesions in the upper abdomen, such as acute perforation of the stomach or rupture of the gall-bladder, etc. The usual diagnosis is gall stones. Chronic pancreatitis is present in six per cent. of all operations on the gall tracts. It is estimated that 81 per cent. are the result of or coincident with gall stones. The acute type is diagnosed by the sudden and severe onset, persistent vomiting, rapid pulse and rise of temperature. The lips may be livid and extremities cold. The pain is excruciating, paroxysmal and associated with collapse. Tenderness is diffuse. In the subacute and chronic cases of pancreatitis, the symptoms are not nearly so rapid and marked. They are usually the symptoms of an infection such as chill, fever, and leucocýtosis with often a gradual development of an epigastric tumor and jaundice.

Often on the symptoms and signs noted above, we can make a positive diagnosis, yet many times we have to go still further in our investigations to make the picture complete. There are certain conditions of this interesting region that even though we do not recognize the lesion, yet we know that some severe lesion is present that demands or justifies immediate operation.

If time allows, the urine, stool, blood and stomach contents should be examined. In gastric ulcer, you will often find blood in the vomitus or stomach contents. When the symptoms point to a lesion of the upper abdomen and you find blood, and hyperchlorhydria in gastric analysis or occult blood in the stool, a marked slight anaemia of the blood, you are reasonably sure that gastric ulcer is present. In duodenal ulcer there is not so apt to be blood in the vomitus or gastric contents, but more apt to be blood in the stool.

The urine should be examined for bile, sugar, fatty acids, etc. Bile in the urine points to a blockage somewhere in the biliary tract. This may be caused by a thickeness of the bile as in cholangitis or by a stone, obstructing the flow of bile into the intestine, or by something outside the biliary tract but pressing on it as a pancreatic growth. In pancreatitis, the urine must be examined for fatty acids. The Cammidge test is thought by some observers to be an important diagnostic sign; by others it is considered to be of little value. Glycosuria is of small diagnostic value. It is more apt to be found at the beginning of pancreatic trouble than at the end. The color of the stool should be noted. In pancreatitis, the stool may be very large. There may be, and usually is marked constipation. The presence or absence of fat and undigested food should be noted. The blood should be examined for leucocytosis.

To illustrate the diagnostic value of a complete examination, I wish to mention the history of a case that was operated upon one week ago to-day. This case was a woman of middle age, who gave a history of having been sick for something over one month. The history showed pain in the upper right quadrant of the abdomen. The pain was mild in character, no radiation, no relation to time, of ingestion of food. Moderate tenderness to pressure in upper right quadrant. Moderate irregular temperature. Mass about the size of a cocoanut close up to the liver. No intestinal obstructive symptoms. Urine normal in amount. No pus, and only a very faint trace of albumen. This patient was seen in a New York Hospital by two well known surgeons. They made the diagnosis of empyema of the gall bladder, or an intestinal growth. They failed to have a cystoscopic and ureteral examination, so missed the diagnosis. The right ureter was obstructed just above the entrance into the bladder. Operation revealed a large tuberculous kidney and a markedly dilated ureter.

Often after a thorough examination, we are unable to be sure of our diagnosis, and operation alone will reveal the true lesion present.

Before closing, I wish to discuss briefly one of the cases that I mentioned in the first part of my paper. I mention this case to show that sometimes the diagnosis is often very difficult even at operation. The case was of a man, 35 years of age. He gave a history of having had typhoid fever about twelve years previously. Off and on for about eight years, he had had attacks of indigestion and pain in the upper abdomen. He did not know whether he had had fever, but had at times had chills. The pain was worse in the upper rgiht quadrant, but at times descended to McBurney's area. The pain was worse about half an hour after meals. He had never noticed the color of his stools, had never noticed any jaundice. Often had dyspepsia and acid vomiting. Physical examination showed that he was somewhat emaciated; was mildly jaundiced. Temperature was 102, pulse 110. Abdomen was somewhat distended, rigid and tympanitic. A large mass filling up the whole upper right quadrant, extending about two and a half inches below the umbilicus, and slightly to the left of the median line. This mass was seen to move slightly with deep inspiration. It was fairly hard but smooth. There was no marked tenderness to pressure. The stools were clay colored. Urine contained bile. Blood count showed no marked increase in leucocytosis and polynuclear cells. The diagnosis of stone in the gall bladder and common duct with inflammatory swelling and exudate was made by me. The treatment consisted of keeping the patient in bed, starvation, and ice bag to abdomen until temperature and pulse were normal. This took about three days. Operation was then performed. The interesting part of this case was the condition found at operation. On opening the abdomen, it was seen that the transverse colon was firmly attached below; the stomach on the left side and adherent. The boundaries of liver, gall bladder and pancreas could not be made out. It was seen that the mass contained pus which, I believe, was confined to the lesser sac of the omentum. The mass was sewed to the upper portion of the incision, and drained after the lower part of the wound was closed. Being afraid of spreading pus and causing a fatal peritonitis, I could do very little exploration. From the relation of parts, I thought that the pus had resulted from a duodenal ulcer. The diagnosis was not manifested until ten days after operation, when large quantities of bile and mucus began to be discharged from the wound. This showed that my original diagnosis was probably correct, but that there was ulceration of the gall bladder or ducts, and perforation with the resulting pus formation. To sum up this case, it will be seen that symptoms and physical signs were present which might have been caused by gall stones, stone in the common duct, gastric or duodenal ulcer with perforation, and pancreatitis. The low leucocyte count can be accounted for by the fact that the pus was thoroughly shut off and little absorption was taking place.

I have not gone into the diagnosis of obstruction or appendicitis, etc., for the simple reason that in these conditions the only diagnosis absolutely essential is whether or not an operation is necessary. The operation itself will reveal the true state of affairs.

GUNSHOT WOUNDS OF THE INTESTINES.*

By Cyrus Graham, Henderson.

In taking up the subject of gunshot wounds of this portion of the human anatomy, I shall endeavor to confine my remarks, as closely as possible to those wounds caused by rifles or pistols, that are commonly used in civil life.

The time allowed will enable me to mention only in the briefest manner, the effects of wounds of the abdominal viscera in war, the difference in the result of wounds caused by black powder and the soft leaden bullet, and smokeless powder with steel bullets of high velocity, and of the soft nosed bullets, and bullets of low velocity striking within the zone of explosive effect.

The character of the wounds produced by the differenet kinds of bullets vary in many important details; but in the majority of wounds made by bullets from the kind of fire arms mentioned, we find, contused, lacerated or punctured wounds.

In looking up the data on this subject, I find that there has not been an original paper on gunshot wounds of the intestines, published in the *Journal of the A. M. A.* for more than four years. This would seem to indicate that we are either growing more civilized, or that our pugnacious citizens are seeking some other means to vent their spleen upon their fellow man.

After reading many papers written by eminent surgeons on this subject, and noting the different opinions held by them in regard to operative procedure, I am constrained to say that the last word has not been spoken, and there are still, and always will be new and interesting features presenting in this class of cases, that will make them fruitful source for discussion.

Dr. Wallace Neff, in reading a paper before the Medical and Surgical Society of the District of Columbia in November, 1901, said: "The most discouraging wounds the surgeon is called upon to treat are gunshot wounds of the abdomen, and this is due to the fact that a large percentage of the cases have no chance of recovery, either with or without surgical intervention."

To this somewhat pessimistic assertion I would say that the modern high power fire arm, with its small projectile, its surgically aseptic bullet, its great velocity, its wide range of action, while it has increased the possibility of being wounded, it has lowered the death rate upon those who have been wounded and left upon the field. This has been taken by some as a basis for the assertion "that in every walk of life, the majority of these cases would get well if let alone." However, this may be in warfare, I know the argument, that in civil life it is best to leave a patient with a perforated intestine alone, to be an eroneous fallacy.

Also, that the deliberatnons of the Society of French Military Medicine on the question of surgical intervention in the field, for the relief of gunshot wounds of the intestines, fully concede that immediate laparotomy is the elective treatment of penetrating wounds of the abdomen in time of peace; but in war they report, that but rarely any good can be accomplished by operations upon the field, or in field hospitals. These views are upheld by such surgeons as Delorme, Moty, Granjux, and Sabatier, and that the principal reasons for a high death rate were: Because one cannot count on seeing the wounded reach the field hospital or dressing station before the twelfth hour; because of the distance from the firing line; the lateness of the hour at which the station was established; the lateness of the hour at which the search for the wounded could be begun, and the time taken in their collection and transportation. And, as Moty reminded the society, "that the fewer hours which intervened from the time the injury was received, to the time of the operation, the better the chance of recovery, and that after twelve hours, laparotomy was rarely useful."

Therefore, from the experience of many eminent surgeons, and from my own personal observation, I take the position, that in time of peace, and whenever practical, active surgical interference should be the rule; for as we all know, when a foreign substance penetrates the abdominal cavity, and especially a bullet that is bacteriologically aseptic, the injury is usually very serious, and as a rule fatal. Even when it does not enter any of the important viscera it may cause death by shock, by hemorrhage, or by diffuse peritonitis, which often sets up in a few hours.

I was once called in a case where a man of about fifty was shot, the bullet entering the abdomen about two inches to the left of the median line, and passing out above and a little to the rear of the crest of the left illium. The patient refused operation, and in a few days died of peritonitis. The post mortem showed that the missile had passed transversely through the peritoneum, cutting an incision about two inches long, passing over and in front of the sigmoid flexure and out near and to the rear of the crest of the illium. I found a piece of cloth from one of his garments attached to the peritoneum. This man could have been saved without any trouble, if he had allowed an operation.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

The operator should be ready to meet any exigency which might arise; but the fact of his not being equipped for some cases wherein the intestines, and other viscera have been badly wounded, need not deter him from, in an emergency, operating and doing his best to save human life.

One operator has said that "Intestinal surgery is simply a matter of plumbing," and with a knowledge of the general rules of aseptic surgery, we should be able to use common sense, and be ready to do a complete resection, a splenectomy, a cholecystectomy, a ureterotomy and a few other things which the surgeon is apt to encounter in emergencies. True, the mortality is high, but the principal cause of the high mortality in time of war is delay, and in civil life it is most usually dirt. So there we have two propositions which can be overcome by cleanliness, celerity, and common sense.

My experience has proven to me that where the condition can be diagnosed with reasonable certainty, as being a simple perforation of the intestines, almost any good practitioner should be able to operate and save life.

The complications of the lungs, liver, gall bladder, pancreas and spleen are conditions that are mostly feared, while simple wounds of either the large or the small intestine, bladder, or the severance of one of the ureters, do not necessarily mean death, because these are easily reached and any surgeon should be able to handle successfully wounds of this portion of the abdominal cavity.

Usually when called to attend a case of gunshot wound of the abdomen, there is no time to inquire into the character of the missile, or the force with which it made its entry. The location of the wound, and the course which the vulnerating body has taken, the bracing up of the vital forces, the relief of pain, and the settling of the questions within his own mind as to whether there has been a peneration of the abdominal viscera, are the points which should take up the attention of the physician. If the indications point to abdominal perforation then he should get help and make an exploratory laparotomy at once.

If there is a hospital near, take the patient to the hospital, but if there is no hospital, do not let that deter you from operating. I have little patience with physicians, who, on the least injury, hurry their patients off to a hospital, from thirty to fifty miles away, to undergo an operation, when another physician and a nurse, or if a nurse is not at hand, two other physicians to help, and with cleanliness and the observation of the best aseptic technique possible, you have given the patient a good chance for his life.

Remember, that just as soon as a gut is perforated, unless there is complete intestinal paralysis from shock, there is an extravasation of feces into the peritoneal cavity, and in a few hours there will be evidences of systemic poisoning, and death will result.

As a result of gunshot wounds of the abdomen, there may follow (1) contusion; (2) parietal lesion; and (3) penetration of the cavity with or without wounding the viscera.

In April, 1909, number of the *Journal of Surgery, Gynecology and Obstetrics,* I made a report of nine cases of gunshot wounds of the abdomen with operations, history and treatment, with seven recoveries. In that paper, I took up the history of abdominal work of this character, from 1836 down to date, showing the evolution of thought and technique in this line of work.

Since this report, I have operated on four other cases with one death, making in all, thirteen cases of gunshot wounds of the abdomen operated upon with three deaths. One of these patients, operated upon, had a perforation of the liver and the right kidney wounded, and recovered.

It is very difficult to write a paper on this subject without mentioning wounds of the solid viscera, but the committee requested me to confine my paper to wounds of the intestines, and I will endeavor to do so.

SYMPTOMS.

The symptoms, attending a contusion of the abdominal wall, or the perforation of an intestine are so varied and numerous that they have been divided into two general classes, constitutional and local. Those, namely, which are furnished by the system at large, and those which are peculiar to the parts more directly affected.

In regard to the first, they are such, generally, as denote a severe shock to the nervous system, but as they are common to other injuries, they are of little consequence in enabling us to make out a diagnosis.

In examining a wound of the belly, we must always determine whether it is limited to the parietes, or whether it penetrates into the peritoneal cavity; whether it is superficial, or whether it extends through into the deep muscular layers.

The symptoms of contused wounds of the abdomen are not always such as call attention to the seriousness of the lesion present. The gravest abdominal injuries may co-exist with practically no external or general indication of trouble, the patient complaining of but slight local pain.

The most prominent and the most reliable symptoms of visceral injury following contusion or perforation of the abdominal wall are: *pain, tenderness, and muscular rigidity,* although I have been called to see patients who were suffering with a wound of the abdomen, and where laparotomy afterward proved the existence of many perforations, where these three symptoms were absent. We can well be cautious for these penetrating wounds often present great difficulty in diagnosis, because of the obscurity of the symptoms.

Of course, when there is visceral protusion then we do not look further for symptoms of penetration; but when there is doubt, as there often is, then we must take into consideration every symptom.

In almost all instances there is nausea, either alone or accompanied with vomiting; respiration is shallow and irregular; the body is bathed in a clammy sweat; the features are pale and drawn; there is often a want of coordination of the muscles; cerebration is imperfect; there may be vomiting of blood or the passing of blood from the rectum. Especially is the latter an important symptom in a wound of the rectum, although there may be a rigid sphincter, and no blood passing from the anus. The blood will accumulate and find its way upward, and then the general symptoms of intra-abdominal bleeding will be present—restlessness, thirst, the pulse rapid and compressible and respiration hurried and sighing. These symptoms often make their appearance within a few minutes after the infliction of the wound, and continue for several successive days until death relieves the patient of his sufferings.

The paroxysms of vomiting and evidences of pain and the prostration of the vital powers are more violent in lesions of the small intestines; but these symptoms vary remarkably in different individuals. This is also true of both hemorrhage and shock; hence these cannot be relied upon only when taken in conjunction with other grave symptoms.

Reaction is often postponed for several hours after the accident, and the patient be conscious and calm, though the subject of a most severe and critical wound; or he may be restless, trembling, alarmed, with attacks of syncope, though there be slight danger.

The countenance, as a rule, has an anxious and haggard expression; the extremities are cold; there are griping pains in the abdomen, and occasionally involuntary discharges from the bowels; and a slight delirium with indistinctness of vision. But, of the local symptoms, the most characteristic signs of a lesion other than the protusion of a viscus, are, unquestionably, the escape of feces, bile, food or fetid air from the external wound, the peculiar griping pains, the rigidity of the muscles of the abdomen, and the sudden development of tympanitis. Therefore, when these symptoms are present, or even when only a few of the most notable are present and the location would indicate a penetration, it is best to not wait for symptoms, for awaiting for symptoms of perforation means to wait until peritonitis has developed; and unless your patient it not actually dying, and the shock is not possibly due to intra-peritoneal hemorrhage, immediate operation should be done. Delay, if it does not bring death from hemorrhage, and the resulting diminuition of the dynamic force of the blood current in a few hours, will bring fecal extravasation, then septic poisoning, and death from acute peritoneal inflammation.

Sometimes the external opening is so small that there is no escape of stercoraceous matter, and then our first positive symptom may be the sudden development of tympanitis.

It has also been observed that in penetrating wounds of the viscera, the bullet does not always enter through the abdominal wall; nor in the use of modern small arms and high explosives does tympanitis always develop, for sometimes the traumatism is so small that owing to a protrusion of the mucous membrane a sort of valve is formed, and this, with the exudation of a plastic material, which nature so bountifully supplies, affords an effectual barrier to the escape of fecal matter, a mild local peritonitis sets up and the patient recovers.

We must not forget that sometimes, although very rarely, the ureters may be wounded or divided by the same missile which has perforated the intestines. This should be noticed by the escape of urine from the wound, or the formation of a tumor produced by the extravasation of the urine. We must also bear in mind that the vomiting of blood or hemorrhagic discharges from the intestinal canal may occur from simple contusion, and a similar injury about the kidneys or along the course of the urinary tract may be followed by the appearance of blood in the urine.

It is also well to call attention in this connection, to the subject of gunshot wounds of the bladder which are quite common. The symptoms vary according to the location of the wound. A perforation between the symphysis and the peritoneum above does not give rise to general symptoms; whereas we may have pallor, weak pulse, vomiting, a chilling of the surface of the body when the peritoneum is involved; a desire to micturate, severe pain at the site of the lesion and radiating to the thighs and testicles.

The diagnosis is not always plain, and especially is this true of a small wound made by a pistol bullet. The wounded bladder wall may contract, so that there may be but little leakage. Usually catheterization before operation will give evidence as to whether there has been a lesion of the bladder. Where the vulnerating body was of the soft nosed variety and the bladder full at the time of the accident, the explosive effect would be very pronounced, and catheterization should be done with great caution.

DIAGNOSIS.

In discussing the diagnosis of abdominal wounds, we may consider the nature of the material through which the bullet had passed, the range at which the shot was fired, and many other points which will occur to the mind of the surgeon in rapid succession; but the discussion of these varied phenomena is not always necessary, nor is it wise to wait and hesitate, because the location of a wound, even if other pathognomonic symptoms are absent, should lead us to suspect a perforation. However, it is a well known fact that the location of a wound will not always give us a correct diagnostic view, for it is claimed that about 3% of the wounds of the epigastrium penetrate without wounding the viscera, and that this immunity is much greater than in the lower portion of the belly.

On the 26th of last December, I was called by the president of our county society, who informed me that on the day previous, a twelve year old girl was shot through the stomach, and that she was still alive, and if I wished to try to save her life to come down, and he would give me a bountiful dinner, and then let me have an opportunity to attend the girl.

I called up our present honorable President, who is now in the chair, and, who has often proven himself as altruistic as I have been, and asked him to go with me and partake of the doctor's hospitality.

This he kindly consented to do, and after a drive of about fifteen miles through the rain, we arrived at the home of the good doctor. He welcomed us heartily and insisted on our eating dinner first.

He did not seem to have much hope in the success of our errand and said, "We had just as well take our time." After dinner and a drive of two miles further through the mud and the rain, we arrived at the home of the patient. We found it a typical tenant farm house—one large room, and a shed room, and so surrounded with shade trees that the rooms were quite dark.

The best light to be had was in the shed room. This room contained a large dirty wood box, an old cooking stove, and a greasy table.

I boiled my instruments, placed a clean sheet on the table and had the patient brought in and placed on the table. On examination, I found temperature 104, respiration 30, and pulse 120.

The point of entrance of the bullet was about two inches above and to the left of the umbilicus, and seemed to be in a direct line to strike the greater curvature of the stomach.

Making my incision through the folds of the left rectus muscle, I found some hemorrhage, and a cut in the mesentery about three inches long. This was closed with a running suture of plain catgut, and on examining the stomach and other viscera, I found no evidence of perforation. The bullet, a No. 38, was located in the muscle of the dorsal region.

All clots and evidences of hemorrhage were wiped off with gauze, the wound closed and dressed in as aseptic manner as possible under the circumstances.

During this operation, the rain was dripping through on my back, and we had to stop in the midst of our work and shift the table to keep the water from the dirty ceiling from falling on the field.

The patient made an uneventful recovery.

In all wounds of the abdomen the probe is contraindicated. We may even say that this proposition will hold good in almost all wounds. Probing a wound or introducing an instrument into a wound for the diagnostic purpose will injure the granulating surfaces, and infect the canal with pyogenic microbes.

"The porcelain-tipped probe of Nelaten, the telephonic probe and other ingenious instruments, devised for the purpose of locating the bullet, have long since passed their day of usefulness. The greatest amount of tissue destruction is practically always subcutaneous, and consequently out of sight, and one must judge of its extent, not from the external wound, not from the probe, but from experience in similar cases."—(See Irwin Able, Gunshot Wounds, *Kentucky Medical Journal,* Nov. 1, 1909).

In certain cases and for diagnostic purposes, I sometimes make an incision intersecting the track of the bullet, using the grooved director to divide the tissues, carefully catching up all bleeding points until the peritoneum is reached, when the certainty of a penetrating wound is present or not may be established. If this procedure is practiced with aseptic precautions, there is but little danger of infection. Althought McGraw and many other surgeons have denied the possibility of a bullet being turned aside by the soft viscera, this has been so often proven to be a mistake that it is not worth while to discuss it. This frequently occurs when the bullet is of the soft leaden variety and with a low velocity usually. The bullets of high velocity usually go directly through, and sometimes, though rarely do this without any serious damage.

The effect of the soft nosed bullets at short range is simply perforating; but at long range they are often so destructive in character, that it is rare an operation is of any benefit, and the patient usually succumbs to the terrible effects of a lacerated wound in a few hours.

Sometimes a tangential shot, or a spent bullet, or even a bullet fired from a cheap pistol, and traveling at a low rate of velocity, may follow the contour of the abdominal wall, or the muscles of the body just beneath the skin.

I once removed a bullet from near the spine, when the point of entrance was in front near the umbilicus. In this case there was rapid pulse, vomiting, rigid abdominal muscles and rapid breathing, but other concommitant symptoms were absent, and on closer inspection the route which the missile traversed could be traced by a ridge where it had plowed around between the muscles.

PROGNOSIS.

If we make our prognosis from statistics, we will find that they differ so widely that it is difficult to reach a definite conclusion; and it is best to be very guarded in our decision, for it will be influenced by the location of the wound, the extent of the trauma, the nature of the vulnerating body, the distance which the patient was transported after he received the wound, and before being placed on the table, the number of hours that have elapsed since the accident, and the condition of the patient's health at the time he received the wound, as well as the condition of the alimentary canal at the time the patient was wounded. Delorme insisted on the "beneficicent role of a pre-existing diarrhea," which had evacuated the intestinal canal, and Sieur on the relative emptiness of the via naturalis in soldiers during a campaign." This is in contraindication to the condition of wounds in civil life, where the victims of gunshot wounds are as a rule well clothed and fed; the alimentary tract loaded; the patient often under the influence of alcohol, the danger of fecal extravasation and hemorrhage greatly enhanced.

I was called one night to attend a wounded man, and on looking him over found him in a very serious condition, having been wounded in two places, by bulets fired at close range from a No. 45 derringer.

His circulation was 124, temperature 96, respiration 30. I applied temporary dressing and ordered him to the hospital. Placing him on the table, I found one wound on the left side below the third rib, and another on the same side, slightly to the rear and passing between the tenth and eleventh ribs. The patient presented many symptoms of abdominal perforation, abdominal hemorrhage, fluttering pulse, and rapid breathing, although he said he was not in much pain. There was no vomiting, and no external bleeding; the abdomen was not much distended, but the muscles were quite rigid, and this rigidity was most marked in the left hypochondriac region.

On opening the abdomen, I found very profuse hemorrhage and evidences of the escape of intestinal contents. My first effort was to find the source of the hemorrhage, and upon examination of the stomach, I found two perforations in the greater curvature, and that the bleeding was from the left gastro-epiploic artery. This was ligated and the perforations in the stomach closed with No. 1 chromicized catgut. On examining the colon, I found two perforations in the splenic flexure and six in the small intestine. These were all closed with No. 1 chromicized catgut; also a long slit in the mesentery, which was closed with plain catgut, running stitch from both sides.

The missile passed out on the right side about one inch above the crest of the illium.

The abdominal cavity was thoroughly explored, and all clots, feces or other foreign matter swabbed out with gauze, and the abdomen closed in the usual manner and without drainage.

The wound in the chest was dressed aseptically and without probing. The patient was placed in bed, respiration 20, circulation 130, temperature in the rectum 94. Patient came from under the anesthetic and progresed very favorably for three days, took liquid nourishment, low temperature, some difficulty in breathing with hemoptysis and physical signs of hemopneumothorax developed on the right side on the third afternoon, coughing and some dullness over both lungs. Bowels moved on the morning of the fourth day after he was shot; temperature 10 0,respiration 30; circulation 110.

On the fifth evening after operation, dullness over the entire surface of right lung, pulse very rapid, patient coughing and spitting up blood. On the afternoon of the sixth day temperature ran up to 106 and patient died. Family would not allow a post mortem, but the indications were that this bullet lodged in the right lung.

I wish to call your attention, in this case, to the peculiar ramifications of the bullet that made the wound in the intestines, to the wonderful vitality of the patient, and to a point that Sieur makes in regard to the "relative emptiness of the alimentary tract" as an important fact in prognosis of these cases, for the intestines and stomach of this patient were comparatively empty, and after the operation he informed me that he had not eaten anything but a bowl of soup for more than twenty-four hours.

With conservative treatment the mortality of gunshot wounds of the abdomen, in civil life, has been placed at about 45%.

Dr. Guerry, of Columbia, S. C., claims that about 2% of the cases of gunshot wounds of the abdomen result fatally because of tetanus. Out of about twenty cases that have come under my observation, I have known but two to develop tetanus. One of these had been to a supper, and while drunk, became involved in a shooting affair and twenty-four hours afterward was found hid out in the woods, helpless from a wound. I operated on him, closed up eight perforations, and he died in two days of tetanus. The other was also a delayed case. But Dr. Guerry's remarkable record of twenty-three consecutive cases of gunshot wounds of the abdomen with two deaths gives him a right to speak with authority.

Owing to the fact that most of our wounds in private life are from small caliber weapons and not of a very high velocity, it is rare that we have the explosive effect which is often seen where bullets of a more explosive type have been used.

The direction which the missile traverses will also necessarily govern the prognosis. A bullet passing directly through the body will not make as many perforations as one passing through transversely.

I had one case where the bullet, fired from the rear at close range, passed through the crest of the left illium, making two perforations in the sigmoid, eleven perforations in the small intestine, two linear wounds in the serosa of the small intestine, down to the mucous coat, through the peritoneum, and into the folds of the transversalis muscle, cutting the deep epigastric artery.

This man was almost in a sitting position when shot. In thirty-five minutes, I had him on the table, and did a section with splendid results.

Wounds of the mesentery are often a cause of more trouble than a simple wound of the gut.

W. L. Rodman, in the *Cyclopedia of Medicine*, 1905, claims that statistics in general show that unoperated cases give 55% mortality, and further more gives us a very good basis upon which to make our prognosis in operating. "Patients operated upon during the first four hours, there is but 15% mortality; four to eight hours, 44%; in nine to twelve hours, 63%; after twelve hours, 70%."

H. H. Grant, (Trans. South. Surg. and Gyn. Association, 1899, p. 40) out of 253 cases operated upon reports a mortality of 53 per cent.

SHOCK.

In discussing the condition known as shock, we must realize how unreliable this condition is as a sign of a severe wound in abdominal injuries, still in all severe contusions of the abdomen this commotion of the sympathetic nerve system will be observed with often an inhibition of the heart's action and other alarming phenomena. These symptoms may vary widely with the idiosyncrasies of the patient. It is "said to be due to an irritation of the peripheral nerves causing a reflex paralysis of the vasomotor center of the medulla."—(See Johnson's Surgical Diagnosis, Vol. I, page 692).

There may be only a slight peritoneal lesion with great shock, and no evidence of shock at all, with many splanchnic perforations.

I was once called in a case, where a young school teacher was thought to be in a very serious condition on account of a gunshot wound he had received in his abdomen. He presented many evidences of both local and constitutional shock. On placing him on the table and opening the abdomen, the vulnerating body was bound in a piece of cloth directly on the peritoneum. The wound was cleansed thoroughly, drainage placed down to peritoneum, and the edges of the incision brought in apposition in the usual manner. A suppurating wound ensued and the patient was several weeks in recovering.

On the other hand I was called to attend a patient who was wounded with a No. 32 bullet, about one inch to the right of the umbilicus, and afterwards brought seven miles in a road wagon, and nine hours after the accident was placed on the table. (He had been to a "stag" barbecue, and was full of beer and barbecued meats.) Notwithstanding his long and rough ride, he exhibited very little evidence of shock, and said that he did not suffer much pain. On opening the abdomen I found five perforations in the small intestines. This patient made a very rapid recovery.

This is positive proof to me not to rely on symptoms of shock entirely in making my diagnosis, but in another case I learned that when shock is progressive it means internal hemorrhage, and immediate laparotomy is indicated.

Life may often be snuffed out very summarily by shock; but if there is a flicker of hope, and we have means to stimulate the stunned vital forces, do so, and operate, while an assistant is employing these means.

There is rarely any great hemorrhage from the vessels of a lacerated intestine, and when it does occur, we may suspect wounding of one of the solid viscera, or a laceration of some one of the arteries and veins. Profuse hemorrhage will alone, always give rise to symptoms denoting a grave lesion, and a large incision through the abdominal wall will give the quickest means of locating hemorrhage, or controlling extravasation.

When this eventration is made and the hemorrhage is found to be from the lacerated arteries or veins of the intestines, a clamp on the superior mesenteric artery and vein, and another over the inferior mesenteric artery will control the bleeding, and clips over the perforations or a rubber catheter run through the mesentery, where there is not much danger of bleeding, and tied—not too tight—over the gut will control the extravasation of the feces. These clamps will control the arterial supply of the splanchnic area, and effectually hold back all hemorrhage from the coelic axis and mesenteric arteries. (See Crile on control of the splanchnic shock, page 131 of Cartwright's prize essay, 1899).

As a rule, in civil life when these wounds occur, they are the result of an accident, or arms fired in the sudden heat of passion, and the first physician that can be had is called in the case. Often the symptoms of intra-abdominal hemorrhage and of shock are so pronounced that an immediate operation seems imperative, and the patient is placed upon the table without any preparation.

A case of this character occurred in my work not long since.

A child of six years was playing on the pavement in front of her home when two negroes became involved in a shooting affray near her and she was shot, the bullet, a No. 38, passing entirely through her body. She was sent to the hospital, and after some unnecessary delay on the part of her family she was placed on the table, and on examination, I found the wound of entrance (the wound of entrance is usually smaller than the wound of exit) in the edge of the right rectus muscle, and on a line with the umbilicus. The wound of exit was in the rear and about three inches to the left of the spinal column.

The patient presented symptoms of a very grave lesion: nausea, rigid abdominal muscles, vomiting, weak, rapid and irregular pulse, dilated pupils, yawning, and other symptoms of progressive hemorrhage.

On opening the abdomen, a fold of the small intestine protruded through the incision, and the quantity of blood welling up through the incision gave evidence of the cause of the patient's weakened condition. I found two perforations in the mesentery, each of them cutting a small artery. There were ligated with catgut and the perforations thoroughly cleansed, swabbed off and quilted from both sides with catgut. At the first perforation found in the small intestine, I tied a piece of gauze around the gut as a landmark, and as a guide and to prevent rehandling in my search for perforations.

I closed three openings in the small intestine, and two large ragged wounds in the splenic flexure of the colon. The perforations were closed with purse string and Lembert sutures, using number one and number two chromacized catgut. The wound in the colon was very ragged, and my first thought was to resect, but found that I could turn in the lacerated edges, and close the opening without much narrowing of the canal. It is always best to turn in the lacerated edges of the wounded gut instead of trimming them. If there are several wounds so close together as to impair the lumen of the gut, or should the openings be too large to repair without this being done it is always best to resect.

The intestines were sponged off with gauze, and all evidences of hemorrhage removed. The abdomen was closed in the usual manner and without drainage. The patient did not have a rise of temperature of more than one degree and was able to leave the hospital in 14 days.

For the closure of intestinal wounds, the Lembert-Czerney, the continuous or glovers stitch is the most preferable, because the most simple and can be made with the greatest facility.

All non-penetrating wounds of the serosa should be closed by bringing the serous coats together over the wounds as in penetrating wounds.

The most important item of all is to close up all the perforations, and to close them thoroughly and quickly.

After all of the wounds have been closed, we should go over the field carefully to the original piece of gauze, seeing that all the injuries are repaired and then remove the piece of gauze.

Where there are several wounds so close together as to impair the peristaltic action of the bowel, we should make a resection. When a small portion of the intestine is resected it can be done without any resection of the mesentery; but even then there is danger of having what one author calls the "dead space" caused by the kinking of the mesentery, and whenever there is more than two inches of the intestine to resect there should be an excision of a corresponding portion of the mesentery.

When we have to do an enterectomy, it is well to remember and to try to preserve the artery supplying the free ends of the intestine proximally and distally, and that in suturing the edges of the mesentery may be approximated with gut by continuous or interrupted sutures or they may be lapped and then sutured along the edge of the fold. In taking out the V-shaped piece of the mesentery, all the blood vessels should be ligated before making the division. If this V-shaped piece of the mesentery is not removed, the redundant portion should be folded upon itself and the free margins all sutured down to prevent an intestinal loop from pushing through at some inopportune time, and forming a hernia. Lacerations in the mesentery should be closed with running sutures from both sides if possible.

The divided intestine may be re-united by several different methods, but we should not confine ourselves to any one method. The end to end anastomosis with the Murphy button and the lateral anastomosis are the most preferable. We may use the dumb bell lateral anastomosis, or the Murphy button in the same manner. A. Ochsner (See report in the *Journal A. M. A.*, July 3, 1909) claims an advantage over any other method, by the use of two plates made of absorbable material, one of which has a row of holes, and the other has the surface cut into in such a manner that a row of thorn-like spikes are cut out of the plate and stand erect, each spike corresponding to the number of holes in its fellow plate. The technique seems to be quite complicated, and while they may be satisfactory, very few of us would have the plates when needed. The lateral anastomosis seems to be the best, and the technique is almost as simple as the use of the button.

The toilet of the operation should be as thorough as possible and no item or precaution that promotes for the cleanliness of the field should be neglected.

The cavity should be thoroughly cleansed, and where necessary sponged with clean gauze. I prefer this to any irrigation, and think that an attempt to clean out the abdominal cavity by irrigation an impossibility.

Drainage is sometimes necessary, but in abdominal surgery, the weight of evidence seems to favor dispensing with drainage when it is possible, or when it will interfere with the process of repair.

Where a wounded ureter cannot be spliced, or rather the abraided ends cut smooth and anastomosed, we should do on uretero-ureterostomy, or a nephrectomy.

Wounds of the bladder should be rendered as clean as possible, and then closed with a continuous suture, over which is brought a row of Lembert sutures.

All gunshot wonuds should be treated as infected, the track of the ball should be cleansed throughout, and aseptically dressed on the outside.

Should pus form extraperitoneally, the abdominal wall should be freely incised and drained out thoroughly.

DISCUSSION.

R. C. McChord, Lebanon: Gunshot wounds of the intestines are emergency cases. We have not time to determine but very few things; we have to act quickly. Papers of this kind are timely before an Association like this, because as the doctor said, we rarely ever have papers on this subject, and it is one of the most important subjects we can discuss before a body of this kind.

On being called to an emergency case of this kind we are confronted with a great many facts; we are confronted with a great many things which we have to consider immediately, and one of the most important is the surroundings, and whether an operation in these surroundings is practical. We know that if an operation is demanded, the hospital is the place to remove the patient, or if this cannot be done, we should operate at the most accessible and best place. We have a great many wounds of the abdomen in which the bullet does not enter the cavity. The point to be determined first, is an operation necessary. If the missile has entered the abdominal cavity we know that it is absolutely necessary to go in and explore the abdomen. It is easy to determine whether the missile has entered the abdominal cavity or not, not necessarily by a probe. I must disagree with a great many practitioners who think that a probe is not good in these cases. It depends whether the probe is aseptic or not, and it depends whether your finger is aseptic or not. I believe the use of the probe is an advantage, and while I would not advocate the indiscriminate use of it in any wound, still there are circumstances where we want to know the direction of the missile, which will determine our future procedure very frequently, and if we can have an aseptic probe and determine the course of the bullet through the abdominal wall, we are to a certain extent influenced in our future operation. With cocaine as a local anesthetic and the aseptic finger and aseptic probe, it is easy to cut down and determine whether the bullet has entered the peritoneal cavity or not. If it has entered the peritoneal cavity, then our future course is very plain. That means an exploratory incision. That disposed of, then comes up the question as to the man's surroundings, and we had better take chances to get him to a hospital, because we do not know what we are going to find when the abdomen is opened. We have to make a large incision; we have to expose important structures, and therefore we had better take chances to get him to the hospital. One important thing referred to, is the necessity of operating upon a patient as soon as possible, especially within the first twelve hours. That matter being disposed of, and everything being made ready for the operation, the point of opening the abdomen is very important. Open in the median line, unless the point of entrance is four or more inches from the median line.

Wm. H. Wathen, Louisville: I regret I was not present to hear Dr. Barrow's paper, but I assume he dealt with gall-bladder disease, pancreatic disease, and perforation of the duodenum and of the stomach. Perforation of the stomach or the duodenum is not a frequent calamity, but when it does occur we must know the symptoms and operate promptly.

I have recently had two cases of perforation of the pylorus near the pyloric constriction just proximal to the pyloric vein. They were operated promptly, and both recovered, and if we operate promptly on all perforations of the duodenum or the stomach we will cure most of our cases. We have to make the diagnosis between perforation of the stomach or the duodenum and acute hemorrhagic pancreatitis. This can be done in most instances if we observe carefully the symptoms. In each there is intense agonizing pain, with rigidity of the diaphragm, and rigidity of the abdominal muscles. This rigidity is greater in perforation of the stomach and duodenum than it is in acute hemorrhagic pancreatitis. At least, it is more diffuse, because in acute hemorrhagic pancreatitis we may not have intense rigidity in the lower part of the abdominal wall. In perforation of the stomach and duodenum, with pain so severe that morphine will not relieve it, and the patient almost incapable of moving, we will at first have but little increase in the rapidity of the pulse and but little shock. In acute hemorrhagic pancreatitis we will have immediately an increased pulse rate, and a clammy, cold perspiration, intense shock. In one case the patient is greatly shocked, in the other he is not, and in each we must operate at once if possible. In acute hemorrhagic pancreatitis we will seldom cure the patient. These patients usually die with or without operation. I recently operated on a man 60 years old for acute hemorrhagic pancreatitis with a gall-bladder filled with stones who came 125 miles in an automobile. He died in thirty-six hours.

James M. Salmon, Ashland: I wish to compliment Dr. Graham on what he has said regarding gunshot wounds of the abdomen and to emphasize the importance of the point he made of the patient receiving surgical attention at an early hour. In my location in northeastern Kentucky many of these gunshot wounds are due to the promiscuous use of firearms and natural pugnacity, and we find cases frequently in the hospital from the outlying districts after a lapse of time so that if infection has taken place it is a difficult matter to accomplish anything. The cases of simple perforation of the intestine or perforation of the bladder, if seen immediately, are amenable to treatment and the results are satisfactory.

A case which came to me only a short time ago was one in which a husband and wife got into an altercation, and the husband made an effort to close the door but had not time to lock it, and the infuriated wife held the door knob in one hand, and as the body of the husband was close to it, in her fury she drew a revolver and fired point-blank through the door and the bullet entered the husband's abdomen. I was called at once, had the man taken to the hospital and subjected him to operation. We found in the peritoneal cavity a long splinter of wood which had been carried in by the bullet.

Another case, a section foreman, was shot in the abdominal cavity, and a brass button from his overalls was carried into and was found free in the peritoneal cavity. Both of these patients recovered without any untoward event. On the other hand, those cases which have been delayed, and in which infection has occurred, are almost hopeless. If more than 12 hours have elapsed from the time of the injury there is not much hope. In the other class of cases in which there is injury to one of the important vessels, where a case is brought in for operation and the blood wells up, it is difficult to find the bleeding point. The importance of the whole thing rests upon early diagnosis and early treatment of these cases.

John H. Caldwell, Newton: I regret Dr. Graham did not have time to finish his paper because he had a great deal to tell us that was good. There are one or two points I do not believe he mentioned, but he probably had them in his paper, and one of them was there is a great deal of difference in the character of the wound and the part which is wounded. A wound in the upper abdomen is much graver, as a rule, than one in the lower part of the abdomen. We know from our experience in abdominal surgery that if we have pus or infection in the pelvis or down in the iliac fossa, the patient has a better chance of recovery than he does in cases where we have infection in the upper portion of the peritoneal cavity. Also, the shock is much greater in wounds high up in the abdomen as a rule.

The doctor who just discussed the paper a minute ago mentioned bleeding. I have had some experience with that. You mop out the blood with one sponge after another and you cannot see what you are doing. You may have a stab wound or a gunshot wound that will cut off three or four or five or six inches of the mesentery from the bowel, and you have severe bleeding that is hard to get at. The bullet in going straight through may cut off the blood supply of five or six inches of the bowel, which is one of the most difficult things we have to deal with.

Woolfolk Barrow, Lexington, (Closing the discussion on his part): Dr. Wathen spoke about the difficulty and necessity of making a diagnosis between perforation of the duodenum and stomach and acute hemorrhagic pancreatitis. Of course it is an open question whether you should treat acute hemorrhagic pancreatitis by immediate operation or delay the operation. No method is satisfactory as these patients practically all die. In conditions of that kind, the essential thing is to make a diagnosis that some severe surgical lesion is present. When you do that, you should operate because if there is any difference at all, statistics show there is an advantage in acute pancreatitis of immediate operation, although that point has not been settled yet. If you get a history of stomach trouble or duodenal trouble, and you can usually recognize the perforation, that justifies immediate operation, and also in acute hemorrhagic pancreatitis.

I would like to say a word on Dr. Graham's paper, which I enjoyed very much. In operating for perforation of the intestine one of the methods advocated by Senn a good many years ago was the injection of hydrogen gas to determine whether perforation existed or not. It seems singular that we should take up a method of that kind. I think one of the best ways to diagnose whether the intestine is perforated or not is by the history of the case. The history is always important. I mean by history, you can determine where the bullet came through, the relative position, and if the bullet meets with any obstruction or not. If the person who uses the pistol stands in front of the person injured or wounded, it is reasonable to suppose that the bullet goes straight in if it is a high calibered gun.

I agree with the essayist that we should not use a probe. If we are going to use cocaine, it is just as easy to get ready for an operation unless there are contraindications, like gall-stones. But we should be ready for operation if the bullet has not gone into the abdomen. We will have done no harm by doing an operation. If it has entered the abdomen, you save a great deal of time.

Cyrus Graham, Henderson, (Closing the Discussion): I wish to thank those leading the discussion for commenting so freely upon the different points brought out in my paper. If I could have had the time to have finished reading it, you would have found many of the points at issue fully answered in the context. When the paper is published, you will find that I have taken up the symptoms, diagnosis, prognosis, hemorrhage, shock, and have given a report of the most severe cases.

One case which I had particularly wanted to call to your attention had two wounds in the stomach, which were made with a 44 caliber bullet. Another case had two wounds in the splenic flexure of the colon and eleven of the small intestines. I gave the history of this case.

As a rule, I do not use drainage in these cases. I mop off the intestines with aseptic sponges, and close up all perforations. A very important point is not to lose any time in searching for the bullet.

I have fully answered in portion of the paper not read the argument as to the advisability of probing for the bullet.

With reference to taking the patient to a hospital, I wish to reiterate, that if you have a hospital near, take your patient to the hospital, if not, do not attempt to convey him a long distance.

If I had a brother, who was wounded by a bullet, and he was ten miles from town or a hospital and I could get men like Dr. Hancock, Dixon, or Moss to help me, I would not haul him to a hospital. I believe the conveying of these patients a long distance, after they have been wounded in the abdomen, one of the most frequent causes of their demise.

One celebrated surgeon advances the proposition that they be conveyed in as much an upright position as possible. Owing to the fact that, as a rule, the moment the bullet penetrates the viscera, there is an extravasation of feces in the cavity and the sitting posture would necessarily increase this leakage, I am not in favor of the proposition.

In number 18, Vol LIX of the Journal of the A. M. A., under "Queries and Minor Notes" there is an inquiry in regard to the probing of wounds, which we think is very pertinent to Dr. Graham's paper:

Should a Bullet Be Removed?

To the Editor: Please inform me why the physicians attending Col. Roosevelt thought it advisable to leave the bullet undisturbed. In my opinion, since the bullet is a foreign body, which may travel and cause destructive changes, and since in this instance the bullet is so superficially located that it is easily accessible, I think it would have been best to remove it.

M. A. BERNSTEIN, Kenosha, Wis.

Answer: An idea once fixed in the human mind is exceedingly difficult to eradicate and often descends from generation to generation long after the fallacy underlying the idea has been exposed. That all bullet wounds should be probed and the bullet removed as soon as possible is one of those erroneous ideas. This idea seems to be fixed not only in the layman's mind, but unfortunately also in the minds of many physicians, notwithstanding the fact that ever since the Franco-Prussian war, surgery has diligently taught that bullet wounds should not be probed and that bullets after they are once lodged are harmless. Not only is probing useless, it may be actually dangerous. It is a common belief that a bullet imbedded in the soft parts is a dangerous thing and likely to cause trouble, but this is not the case. When a bullet is once lodged, its power for evil is lost except in a very small percentage of cases in which the bullet is lodged against the spinal cord, the brain or some equally important or delicate organ.

The location of a bullet, therefore, is seldom of immediate importance, but it is very necessary to know what damage has been done by the bullet in transit.

A bullet wound of the abdomen, which has not injured the intestine, a large blood vessel or an important organ is of little consequence, regardless of where the bullet may have lodged; but should the bullet have injured the intestine, so as to permit the escape of intestinal contents into the peritoneal cavity, death is almost certain unless the patient be saved by a timely operation, even though the bullet may have escaped from the body.

A probe cannot give one information desired, but may cause much damage by introducing infection into the wound by distributing it over a wider area or by reopening injured blood vessels, etc., all of which, taken with the fact that it is almost always impossible to locate the bullet with the probe anyway, has long since placed a ban on the use of a probe in bullet wounds. If it is desired to know the location of a bullet that has lodged in the body, it can readily be determined by the use of the X-ray.

As already remarked, a bullet that has lodged is usually harmless and soon becomes encysted in almost any tissue of the body unless infection is carried in with the bullet, in which case suppuration will occur; an abscess from this cause should be treated just as an abscess from any other cause plus the removal of the foreign body. Fortunately, bullets do not, as a rule, carry infection. Hence, it is unnecessary to pay any attention to them for the time being; in fact it is better to let them alone until it is determined whether or not there is infection. Much tissue in the track of the bullet has been devitalized and complete rest should be given the part until this has been taken care of, and any meddling with it only increases the chances of infection.

After the dangers of infection have passed, if the bullet is in an accessable location, it may be removed or not. It then becomes purely an operation of election.

Bullets do not travel in the soft parts and do not cause destructive changes, other than those due to infection which have been mentioned.

SOME PRACTICAL PHASES OF INTESTINAL OBSTRUCTION.*

By W. D. Haggard, Nashville, Tenn.

This communication is prompted by the realization that about five times as many patients perish from intestinal obstruction as is really necessary. The average death rate is at least 50% with operation. The mortality in the Massachusetts General Hospital, reported by Scudder, was 60%; Wilms' collection of operations by fourteen European surgeons was 45%. This is an exceedingly dispiriting contemplation. It is a sad commentary on our diagnostic art that 15 out of 20 patients with this malady reach the surgeon in a far advanced state. Moynihan says that a 10% mortality (which should be attainable) is a legitimate surgical mortality—all above that is the mortality of delay. The writer's mortality in acute obstruction is 42%. This includes about every type and degree—the resection of the ileo-cecal region, with a number of inches of intussuscepted gangrenous small intestine, in infants; the deadly volvuli of old age; strangulated umbilical hernia in elderly fat women; fifth day obstruction in which several feet of gangrenous intestine was resected (and in one case with recovery) and practically every example of the various obstructions by bands and adhesions.

The clean cases of mechanical obstruction occuring in the hospital within two weeks after an operation and, therefore under the surgeon's care are regularly operated upon early and the death rate is negligible. The same assiduous care in the early recognition and prompt surgical interference would yield the same gratifying results in obstruction occuring outside of hospitals.

In insane asylums where a demented victim is occasionally seen to be vomiting in a corner the diagnosis is readily made without the help of an intelligent history. It is not uncommon to find a strangulated hernia under these circumstances, and it would seem that these wards of the State, unfortunate as their plight may be, have a better chance for their lives with obstruction than the average citizen, because prompt diagnosis and operative intervention is commonly made.

In analyzing the various causes of faulty diagnosis and delay in operation it has been observed that we are prone to wait until a complete diagnosis is made. It is then oftentimes too late. Again too much dependence is placed upon purgatives. It is hard to withstay one's hand, but after an adequate cathartic that is not vomited, it is notoriously wrong to persist in the administration of purgatives. They tease the already blocked intestine almost to bursting. Yet this is the too common practice in spite of all the writers that have inveighed against it. Some authors, although deprecating purgatives, put great reliance upon enemata. When we think that over 90% of mechanical obstructions are in the small intestine, how futile it seems to make such a vigorous and continued effort with enemata. The worst of it is, that when they are successful, one is misleading and thinks the obstruction has been relieved. It is obvious that no case of mechanical obstruction of the intestine ever was, ever can or ever will be relieved by an enema. They are so extremely misleading that I feel that their use should be interdicted until a diagnosis can be made. Few patients ever die for the lack of an enema. One of the surgeons of St. Bartholomews, in London, insists that two enemas should be given before anaesthesia and one with it. I am glad it is not the practice to administer such unsatisfactory and inefficient remedies under anaesethesia in this country.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

It is regrettable that many practitioners think that fecal impaction is a very frequent cause of obstruction and are prone to look upon many cases of indubitable mechanical block of the small intestine as due to fecal impaction. It is unnecessary to say that this condition, giving rise to acute and superlative symptoms is extremely rare. It certainly rarely occurs in the cecum and if in the sigmoid is palpable from above and below.

The use of morphine is another of our too common and indefensible errors. In the presence of suggestive symptoms of genuine obstruction, it would be a good rule to operate in every case where a second dose of morphine is required to control the pain. The first may be necessary, and, therefore, admissible. The second is rarely, if ever so.

We have not entirely discarded the mantle of orthodoxy in employing prolonged taxis for the reduction of strangulated hernia. And yet, we know only too well the dangers of prolonged and repeated taxis in strangulated hernia. Only recently an author has described a most ingenious and elaborate way under anaesthesia to devaginate an intussusception. Three successful cases are reported and yet so excellent and sound a surgeon as the late lamented Maurice Richardson tells us of a case of intussusception which he could not reduce with the intestined in hand. How frequently when it has been pulled out of its apex it is found to be gangrenous. Would it not seem that such hazardous methods of treatment should be avoided? There is no excuse when a child is under anaesthesia with an intussusception for failing to divide the parietal wall and gently, intelligently and by sight relieve the intussusception, and fix the cecum to the abdominal wall to prevent its recurrence.

The end of our innumerable delinquencies is not yet. An excellent text book upon the practice of medicine speaks of the administration of quick silver to relieve obstruction of the intestine. A victim of this treatment I saw with a high-class practitioner who only administered it on the sanction of high authority. He said he had carried the little bottle of quick silver for some hours, debating its administration. He thought it could do no harm. It did not, but the false hope it had held out and the consequent delay resulted in extensive gangrene, which separated like wet blotting paper as the first coil of the intestine was raised up after the abdomen had been opened. Particles of the quick metal were seen to run out and soon thereafter the

"The silver chain was loosened
The golden bowl was broken."

A great deal of experimental work has been done to determine the exact cause or causes of death in intestinal obstruction and Murphy and Vincent conclude that interference with the circulation is the chief factor, especially obstruction of the venous return. They think the acute symptoms are caused by absorption of toxic substances. Purely bacterial (endotoxins) not putrefactive or mechanical cause the profound symptoms and death.

Hartwell and Houget think these toxic substances in the circulating blood produce fatal lesions in the liver, kidneys and other tissues. Injury to the lining cells of the intestine is essential to absorption. This injury is caused by irritation of stagnating contents and probably to the mechanical damage due to over-stretching. The poison may arise from perverted secretion of the glands and bacterial activity. They may be normal to the intestinal canal or they may be new formed under conditions of obstruction and stagnation. At any rate they are innocuous while the mucosa is normal. Practically speaking we know it is the advent of strangulation that determines the gravity of the symptoms. It is this catastrophe we should seek to avoid by timely interference.

I am aware that the diagnosis of ileus is extremely difficult. There is no condition in which the requirements of diagnosis are more exacting. The four cardinal symptoms are severe cramp-like pain, nausea or vomiting, obstipation, and meteorism, though extremely variable, insistently compel attention and should be thoroughly and suspiciously scrutinized.

The advent of fecal vomiting should never be waited for.

Practically speaking the majority of acute intra-peritoneal accidents begin in and about the appendix. A great many errors are made in diagnosing such cases as appendicitis as obstruction. So far as the patient's need for operation is concerned, of course, it does not make a great deal of difference, but so far as the accuracy is concerned the presence or obsence of temperature in the first 24 hours is an extremely helpful indication. The almost universal absence of temperature in the beginning of obstruction is one of the most constant guide posts.

So thoroughly is the syndrome of ileus capable of being mastered, I have seen a diagnosis of obstruction made upon subjective symptoms alone, and when the patient had been transported a hundred miles a physical examination disclosed a large strangulated hernia. The diagnosis of obstruction was correct, but why not examine the patient? There are many cases of obstruction presenting symptoms of ileus—diaphragmatic pleurisy, pneumonia, acute nephritis, uremia, tabetic crises, lead poisoning, ice cream poisoning and erythema with visceral lesions. Aside from a very careful eliciting of the history, and an examination of the abdomen itself, it is always a wise plan to make a rectal examination, a white blood count, a chest examination and urinary analysis, with the test for indicanuria.

If the patient has had one or more attacks of appendicitis or other intra-abdominal inflammation, or has at any time undergone an abdominal section, the possibility of obstruction should never be lost sight of. Ruge found nearly 18% of his cases of ileus comprising a period of 20 years to be due to adhesions and other mechanical complications and relics of appendicitis; but in less than 2% of the cases of appendicitis. Where there is a history of gall stones the symptoms of obstruction while they may be reflex from ordinary gall stone colic, may also be caused by obstruction of the small intestine by a large gall-stone.

Roughly speaking most acute obstructions are in the small intestine. The majority of the chronic obstructions are in the large intestine.

Intussusception occurring in infants is such a clear cut clinical picture that we should err less than in the other varieties. The sudden seizure of a healthy child with severe peristaltic pain, with suppression of stools, followed in a few hours by a discharge of blood from the bowels, which is not in spots, but mixed with mucus, with or without a tumor, warrants prompt operative intervention. Delay should not be tolerated to complete the diagnosis before operation. The time to perfect the diagnosis of intussusception is during exploration and not before. Operation to be successful should be done in the first 24·hours and preferably in the first 12 hours, because any operative procedure beside simple reduction is fraught with the gravest dangers. Any excision of the intestine in an infant, no matter how skillfully and rapidly done is almost invariably fatal. These extensive operations are really the result of unwarrantable dalliance and deadly delay.

In one of my cases, a boy of 12, the intussusception was discharged in a necrotic condition through the bowel on the 17th day. There are 43 similar cases recorded. My patient, unfortunately, had a chronic and almost impermeable obstruction at the site of nature's anastomosis, which two months later required a resection of 17 inches of the ileum, with anastomosis. His general condition was very extreme and he died at home some weeks after the operation.

Intussusception is also occasionally observed in the adult. Elliott tabulates 263 examples of this condition.

Septic and paralytic and mechanical ileus after laparotomy were formerly the bete-noir of abdominal surgery. By improved methods of preparation, technic and after treatment this has happily been abated to a large extent. The handling of septic conditions in the abdomen has been greatly perfected and the after care has been much improved. The sheet anchor is the stomach tube, which should be used in the very beginning of vomiting, if it comes on any time after the anaesthetic has worn off. It should be used repeatedly. The large quantities of brownish black fluids which are gulped up intermittently and finally incessantly can be controlled wonderfully. Thus the patient is rid of a large quantity of toxins.

In peritonitic ileus Westerman advises continuous siphonage of the stomach, through a stomach tube, introduced by way of the nose for periods up to 12 hours. It stops the vomiting and hiccough and allows the patient to drink freely.

Post-operative obstruction, either mechanical or paralytic is really the most difficult thing to handle which confronts the surgeon. Prevention is infinitely more successful than its cure. Reopening is a very forbidden undertaking and I am but convinced that many cases in the past have been allowed to die with black vomiting, distended abdomen, rapid pulse and great restlessness, without bowel action, which could have been benefited by a quickly performed re-opening under gas anesthesia or novocaine. Enterostomy in this group of cases I am sure has a distinct value. Krogius urges its importance and regards it as life-saving. In 34% of the cases in which he employed it successfully, all of them, he thinks, would in all probability have perished.

Acute dilatation of the stomach and gastromesenteric ileus is often checked in its beginning, especially if the patient is turned on her face, with the foot of the bed elevated and if necessary required to assume the knee chest posture. Abdominal distention can be very satisfactorily controlled by the administration of an enema of alum. Fecal vomiting should never be waited for, although when it appears it would seem that our wavering diagnosis should at last be firmly planted. I remember a case on the 5th day in which the diagnosis had been made by the other symptoms and when I visited the patient at the hospital, after his arrival, he very obligingly confirmed the diagnosis by his first fecal vomiting. Immediate operation disclosed a very small adhesion which was quickly relieved and I was delighted to see the fecal contents go down into the empty intestine. It seemed to be an occular demonstration of his entire and complete mechanical relief. It was the simplest operation I ever did. In 12 hours he was dead, having had a temperature of 106. Post mortem showed no obstruction or peritonitis.

If I had drained his intestine of its putrid contents above the obstruction by a Treves tube I might have saved him.

Everything depends upon the condition of the patient. In early cases which are in good condition the locating of the point of obstruction and its relief by whatever measure is required is imperative in deciding upon cur operative plan in acute obstruction.

The desperate cases, however, which are unable to stand any prolonged manipulation have a very excellent chance with simple enterostomy. This is not a new measure but it fell into disuse, with the advent of perfected surgical procedures. These operations performed in the recent past, ever so skillfully, were seemingly indicated badly enough but the mortality was simply frightful. About everyone was convinced of the fact that this high mortality was inevitable in the delayed and advanced cases and could not be gotten below 60 or 70%. It was then found that by contenting ourselves with less complete and technically ideal procedures, more lives were saved and enterostomy was more frequently called into requisition. The objection, of course, is the annoyance of a fecal fistula. This can be very much mitigated and spontaneous closure be effected in the great majority of cases if a catheter is inserted in the distended coil of intestine, secured by two purse string sutures after the method of Kader. While in position the catheter will empty the contents into a receptacle. In two instances I have had the fistula to close without further discharge and in all of the cases in which I have used it that have survived very few required second operation. No matter how desperate the condition of the patient, if any effect is to be made at all this much can be done usually under local anaesthesia. It requires but a few minutes. The objection that gangrenous intestine may be left has been shown by Elsburg to be very infrequent. If it is detected the gangrenous intestine should be drawn out of the wound temporarily and enterostomy performed until the patient can be rallied.

In patients whose condition is only fair a good proportion of them would be better treated and more saved if too much is not done and in place of a complete operation, it is the part of wisdom to perform it in two stages—first the enterostomy which is nearly always capable of affording him relief and the second procedure can be performed for the relief of the obstruction, should it remain unrelieved, at a more opportune period.

In four cases of post-operative obstruction resulting from suppurative appendicitis, requiring drainage, which occurring in my clinic during the last twelve months, all were quickly and easily relieved by enterostomy. In all the block was spontaneously relieved, discharge of the fecal current was subsequently resumed and no further operation was needed.

In no field of surgical endeavor is a more accurate and comprehensive diagnosis required; a more prompt and well planned surgical effort demanded; more daintiness and rapidity of manipulation and more judgment in the apportionment of the proper methods to the limitations of the individual case.

By the simpler methods herein suggested it is believed that a more satisfying solution can be had to one of the most vexed problems of surgical practice.

CARE OF THE BREAST DURING PREGNANCY AND LACTATION.*

By S. L. Beard, Shelbyville.

The care of the breast is one of the first and a very important factor in our obstetrical practice, especially so in the management of a case, if she be a primipara. . Certain changes take place in the breast early in the pregnancy on account of the sympathetic relation existing between the breast and the uterine organs.

They are to prepare the mammary gland to perform the very important function of lactation which they have to do after pregnancy is terminated.

About the second month of pregnancy, the breast begins to increase in size and becomes somewhat tender, as pregnancy advances they become much larger. The enlargement being chiefly caused by the growth of glandular and connective tissue.

The most noticeable changes take place in the nipples and areola, the nipples becoming dark and frequently covered with brany scales, the areola become enlarged and dark from the deposit of pigment, the extent of the discoloration often depends upon whether the woman be fair or dark complexion, in women of fair complexion, it may be noticeable while in women of dark complexion, it is very characteristic. The areola become dark and swollen, with small tubercles developing upon them, forming a circle of projections around the nipples. As pregnancy advances, they increase very materially in size towards the latter months of pregnancy, you can force out by pressure upon the nipples, a serous fluid, said to contain, milk and colostrum globules. When a diagnosis of pregnancy is made or when the obstetrician is called upon to look after a pregnant woman, the breast should receive some attention, especially if the patient be a primipara because the nipples may be very short and tender.

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*Read before teh Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

Then the breast should have light massage, nipples bathed frequently during the first months of pregnancy with a solution of boric acid and alcohol. This will harden the nipples and prevents them from cracking open causing fissure which is especially painful when the child is nursing.

It may be necessary some time to use the breast pump to draw the nipple out as it were, before the milk appears in the breast after the delivery of the child. After the pregnancy is terminated, the child should be placed to the breast in a few hours, for two reasons: first, it will promote contraction of the uterus, second, it will tend to draw out the nipples and the small amount of fluid, the child gets will stimulate him to nurse more, thereby drawing out the nipple.

After each nursing, the nipples should be bathed in boric acid solution followed by rubbing with alcohol, trying to prevent, if possible soreness of the nipples and fissure. If after a few days the milk comes on in large quantities and the child not being able to take care of it, the breast pump should be used and that very carefully so as not to bruise the breast.

When the breast becomes hard and caked, slight massage with cocoa butter or some bland oil and applying hot applications will be a great benefit in preventing abscess from forming in the breast. When an abscess does form, we have a very troublesome complication to deal with. The occurrence of an abscess in the breast is not at all rare and if they do not have the proper treatment will by frequent suppuration and the forming of sinuses produce serious effect upon the health of the woman. The causes of abscess are numerous, such as fissure and erosions of the nipples which should be treated as they arise. Exposure to cold, a blow on the breast, engorgement of the lacteal tubes, the abscess may form in any part of the breast.

Symptoms of abscess: feeling of malise, sometimes a chill, especially if the abscess is deep seated, followed by a rise of temperature to 102 or 103 degrees, with a rapid pulse.

Upon examination, the breast will be found to be enlarged and very sensitive to touch, at the seat of the abscess, we may find a distinct swelling and tenderness, if the suppuration is deep in the breast there will not be any local swelling but on the contrary, the whole gland will be swollen and tender on pressure and often the slightest movement will cause great pain.

As the abscess progresses, the skin on the part of the gland involved becomes red and if the abscess is left alone, it will sometimes open of itself. Sluffing of the glandular tissues sometimes takes place often causing considerable hemorrhage, by the destruction of the engorged blood-vessels. The general health of the patient suffers by reason of the neglect of the treatment of the abscess, causing sinuses to be formed with continual suppuration.

A great deal can be done towards preventing the abscess by a proper care of the breast which has already been discussed.

When we have the symptoms with local tenderness, we should at once try to abort the abscess by giving the gland absolute rest and giving the patient a good calomel purge followed by a saline, large doses of quinine are often beneficial in these cases, pain should be relieved by an opiate.

The breast should be supported by a binder applied very snug, to keep the gland well up, the patient should be put to bed, hot applications applied such as flax-seed poultice or the old-fashioned pancake. Applying belladonna ointment will lessen the flow of milk.

When the child nurses, the pain is usually so severe that it is best to discontinue nursing temporairily, if only one breast be affected, the other will usually furnish enough milk for the child.

If the breast pump is used with great care, it will greatly relieve the pain and tension in the gland. If the abscess is small nursing of the affected breast may be resumed after a time, but if the abscess is extensive and deep seated, the nursing will have to be stopped altogether.

Just as soon as the pus has formed evacuate it as thoroughly as possible.

The method of opening the abscess is important, we should open in a line radiating from the nipple so as to avoid cutting across the lacteal ducts, after a free incision of the abscess and the evacuation of the pus, it should be treated antiseptically, the dressing frequently changed, in the long continued suppuration when there are one or more sinuses, they should be opened and by opening, I mean a good free opening connecting all the sinuses with each other giving good drainage. After free incision irrigation, with normal saline solution or a carbolic solution, using a drainage tube if necessary and the application of moist surgical dressing frequently changed.

While this treatment is being carried out, it is well to give some stimulant, good nourishing food, a tonic containing some preparation of iron or quinine will be of service in these cases.

ETIOLOGY AND PATHOGENESIS OF PUERPERAL ECLAMPSIA.*

By GEO. J. HERMAN, Newport.

This disease is characterized by convulsions in the pregnant woman which come on periodically.

The symptomatology of puerperal eclampsia may be divided into three stages:

First, the invasion; second, a short period of tonic spasm, and third, the period of clonic spasm.

First. The period of invasion is most often attended with a severe frontal headache, sudden flashes, vertigo, more or less blurred vision and mental torpor or excitement. The temperature gradually rises and the pulse and heart beat become steadily stronger. The patient complains of severe pain in the epigastrium; and severe chills precede the seizure in most cases.

Second. The tonic spasm may occur suddenly, that is, without warning, and is usually brief. The eyes remain wide open and staring, the pupils being dilated, the face is very pale and consciousness is lost. The spasm consists of pronation and supination of the forearms, the fingers being tightly closed around the thumbs, and the legs are rigid. The head and mouth are drawn to one side, generally the right, and the breath is held through the arrested action of the respiratory muscles, and opisthotonos may occur.

Third. The onset of the clonic stage is marked by a change in the appearance of the patient, the face becoming deeply congested, tumified and then cyanotic. The eyeballs fixed before; now move rapidly from side to side, the lids closing and opening rapidly, the pupils becoming contracted. The muscles of the face and jaws are violently contracted, the tongue being sometimes severely bitten; the patient foams at the mouth and the head is tossed or rolled from side to side with great rapidity and violence. All the extremities are thrown around vigorously, and rapidly flexed and extended. The respiration is markedly impeded and often stertorous; the heart and pulse at first beat slowly and forcibly, the veins of the neck being turgid and distended, but later on the cardiac action becomes weaker and even feeble and very irregular. The temperature in most cases rises to 104 degrees F., and in some it may reach as high as 107 and 108 degrees F. These symptoms are usually followed by a deep coma. Sometimes the convulsions occur while the patient is in this comatose state. In favorable cases the seizures become less frequent or cease immediately after delivery.

These symptoms are due to blood-toxins which irritate the vaso-motor and suprapubic nerve center. All the vessels of the body being violently contracted, a wave of blood is forced into all the capillaries, including the cellular elements of the cerebro spinal system.

The activity of the cortex as a sensory organ being suddenly enhanced, a flood of impulses of the voluntary type is transmitted to every portion of the spinal system and the seizure occurs. The arterial pressure is so intense that the capillaries are sometimes found ruptured, and hemorrhagic lesions are found even in the placenta at the post mortem. This violent hyperemia is the cause of the great fatality of eclampsia to the infant. During pregnancy the mother's blood becomes increasingly laden with waste products, those of the developing foetus being added to her own. These spasmodic poisons are intermediate products of metabolism which accumulate in the mother's blood when her autoprotective mechanism, the adrenal system, is insufficient, i. e., functional hypo-active.

To protect her own organism from these toxins, the adrenal system, including, of course, the thyroid apparatus, becomes increasingly active, to insure the destruction of all waste products in the blood as soon as they are found.

When the adrenal system does not become blood's antitoxic properties, including pha-sufficiently active to enhance adequately the gocytosis and the opsonic index, the toxic wastes are allowed to accumulate in the blood and in sufficient quantities to provoke convulsions.

That the mother's auto-protective mechanism is developed coincidently with the growth of the foetus through a coresponding augmentation of the functional activity of the adrenal system is fully sustained by experimental evidence.

Lang in a series of 133 cases of pregnancy found the thyroid gland enlarged in 108, the organ beginning to enlarge the fifth month. This increase in volume ceased if thyroid extract was administered and began again when the extract was withdrawn.

Now let us see in what relationship albuminuria stands as causative factor in this disease.

Lantos found albuminuria in 60% of 600 newly delivered women, in over 70% of primipara, and over 50% of multipara, and Prof. C. D. Palmer, of Cincinnati, also found albuminuria in over 50% of pregnant women in the obstetrical wards in the Cincinnati Hospital waiting to be confined, and Pajot nearly twenty years ago pointed out the fact that many women were highly albuminuric who did not have eclampsia, therefore, these authorities have concluded that it has no pathological significance.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

Williamson referring to the older view that nephritis was the fundamental cause of albuminuria, states that it was gradually abandoned when it was found that only a small proportion of the women had eclampsia. This shows that the two phenomena are distinct entities.

Indeed, as emphasized by Bar, a normal action of the kidneys does not prevent a fatal ending; and conversely albuminuria may be absent notwithstanding its presence of marked renal disease. Albuminuria is an index to the degree of vaso-constriction present.

When the vaso-constriction becomes excessive, there is added to the albuminuria, transudation of the albuminous portion of the blood, (the serum) through the engorged capillaries and the oedema of the feet, legs and face appears.

Moderate albuminuria alone in pregnancy is not a threatening condition, therefore, while moderate albuminuria plus renal casts may ultimately prove to be serious. Albuminuria with oedema points to a marked vascular constriction which may become pathological.

Nicholson has pointed out that during pregnancy, the right side of the heart is dilated, while the left side acts as if it were hypertrophied. Obviously this is due to widespread and extreme vaso-constriction, a condition linked with the albuminuria of pregnancy, the blood being as it were jammed into the venous system. The dilation of the right heart affords an idea of the intense pressure to which the capillary system is submitted, and the familiar fact, that the serum of the blood normally traverses the walls of the capillaries to penetrate the lymph spaces, indicates how it may traverse mechanically the renal filter or invade the tissues and make them oedematous.

The relative excretion of urea is an index to the proportion of the toxic waste product that are present in the blood. The addition of foetal products of metabolism to those of the mother, necessarily involving an increase of them in the maternal blood, a corresponding increase in the urea excreted should occur. But in eclampsia it is markedly reduced and the severity of a given case corresponds with the urea excreted, while improvement coincides with a material increase in the amount eliminated.

Butte observed that when in eclampsia the proportion of urea excreted was normal or below, death usually followed, while recovery ensued as a rule when it was doubled.

The fact has long been emphasized that urea is always found markedly diminished in the so-called pure toxemias of pregnancy and that the amount of urea excreted always goes hand in hand with the condition of the patient, although urea is not in itself a poison, diminution in the quantity excreted indicates that toxins are bein gretained, and a marked falling off of the quantity excreted is of grave import. These facts have been confirmed experimentally and clinically. Therefore, the urea-output is the index to your eclamptic patient and not the presence of albuminuria.

SENSE AND NONSENSE OF DOMESTIC MEDICINE.*

By J. J. Youtsey, Newport.

In this brief consideration of the subject assigned me we are not considering for a moment that it has reference to the domestic treatment of diseases for any great length of time, or attempting to treat a case of sickness through its entire course and thereby neglecting to secure proper medical advice, for that would be a condition that seldom, if ever, presents itself, and can only be spoken of to be condemned in the severest terms, but as a preliminary measure where delays are unavoidable in securing medical attention, and in some emergencies much good can be accomplished by the judicious use of some of the simpler medicines—that are found in almost every household.

Domestic treatment has existed in the past, is being practiced now, and will continue to be as long as the world stands.

Domestic treatment should be to the sick what the first-aid packet is to the soldier: an emergency effect from an outfit ready at hand, and administered according to directions previously given by the family physician and used only pending his arrival.

In order that any drug may be used intelligently one should understand the conditions under which they might be harmful as well as the conditions under which they might be helpful; also the effect that is expected to be derived from its use, to recognize when drugs are not needed as well as when they are needed.

As a matter of fact, the layman is not equipped to know all this, neither am I prepared to say that all physicians can determine all these points withotu error in every instance, yet the family physician is better prepared to meet these questions, and it should be left to his advice as to what drugs should constitute the home medical outfit and how and when to use them.

This home treatment should be as simple as possible and it is far better to direct it in the proper channel than to let it pass over the phone to the druggist or to a friend with patent medicines.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

Among these home remedies, castor oil will easily take first rank, its use covering a wide range of conditions and its beneficial effects unquestioned. It can be safely left in the hands of the parents. We have all seen the good effects of a full dose given before we were called in, and found our work made much easier if not already accomplished. Irritating matters have been swept from the intestinal trac t,the cause of the trouble removed, and but little further treatment required in many instances.

In the beginning of most fevers or colds, in cases of acute intestinal indigestion, in ptomaine poisoning, in acute diarrhoea, especially in the so-called summer diarrhoeas of infants, the proper thing has been done when oil has been given while awaiting further medical aid. It is objectionable only on account of its taste but this can be overcome to some extent in many ways; given in orange or lemon juice, or peppermint will disguise it to some extent or by combining it with aromatic syrup rhubarb, equal parts, makes it really palatable. It also has the advantage of there not being much likelihood of its giving rise to the formation of a "habit." A "Castor Oil Fiend" has never to my knowledge been made the subject of a medical report.

Epsom salts will also be found in every home and has its advantages in not being so difficult to administer, and in its quicker action.

Tincture iodine has been in common use in many households for many years, used locally by painting the skin in beginning inflammations, and in glandular swellings.

Sulp. quinine is another drug which is generally found in the home and is administered with very good judgment in most instances. In beginning colds or influenzas, accompanied by chilly sensations, a moderate dose of quinine may well follow the castor oil. The question of repeating the dose should be left to the family physician.

Spirits camphor is in universal use, applied externally as a lotion, to sprains and bruises, and given internally a few drops in water as a stimulant in cases of faintness or in distressing flatulence.

Paregoric should be kept in the medical outfit but repeated dosage should be absolutely prohibited unless given under medical advice. It has been but a few years back when nearly all homes had their packages of camomile, sage, saffron, fennel, hoarhound, sassafras, etc., but to-day they are fast leaving the medical shelf because far better and more active preparations, placed there through the advice of their attending physician. These barks and herbs were given liberally in the form of hot decoctions or teas, and no doubt but that whatever good effect was obtained, was not because of its being sage, camomile or sassafras, but on account of the large quantity of hot water which was given.

We have mentioned only a few of such medicines as can be found in almost every home and I believe that we should advise that the home outfit should consist of but very few drugs so as to give no chance for dangerous home experimentation as well as to lesson the danger from too earnest efforts at home medication.

Two remedies which have not been mentioned and whose value has not been fully appreciated, may be considered as standing apart from all others, each of which can easily be obtained at every home and which are potent factors in the treatment of every disease. These two remedies are water and fresh air. Water should be used freely both externally and internally; if it is not known to come from a pure source, even if it looks clean, it should be boiled.

The use of plenty of fresh air is just as important; it not only helps to cure, but what is more important, it tends to prevent disease.

These two remedies, together with plenty of sunshine are the greatest curative factors as well as preventatives that any home can have.

Of course that has been and are still some nonsensical ideas as to the curative powers of certain articles, but these fallacies are fast disappearing, and we now but seldom see one carrying a buckeye in their pocket to cure hemorrhoids, while the assafoetida bag is no longer the favorite prophylactic against any and all infectious or contagious diseases.

There is one method of domestic practice that has been and is still prevalent in all parts of the State, one which has done more harm than all other attempts at domestic medication put together: that is the effort to cure rabies by he use of the so-called madstone. Nearly every county has some one who claims to have an infallible remedy in the shape of a madstone, and the layety relies implicitly upon its curative value, submitting themselves for teratment with it and thereby losing their opportunities for successful treatment if they have been actually infected by rabies.

It would be well is some means could be put into effect for the destruction of these stones or the prohibition of their use.

COUNTY SOCIETY REPORTS

Allen—The Allen County Medical Society met at Scottsville, December 28th, in the office of G. R. Keen, with the following members present: Dixon, Keen, Callis, Calvert, Pace, Willoughby and Meredith.

The minutes of the preceeding meeting were read and adopted.

The following non-members were elected to membership: A. O. Miller, Petroleum; Richard Keys, Scottsville.

The following officers were elected for the year 1913:

W. E. Willoughby, President; W. A. Callis, Vice President; H. M. Meredith, Secretary and Treasurer; C. A. Calvert, Delegate; G. R. Keen, Alternate; W. H. Harris, C. W. Holland and J. E. Pace, Board of Censors.

A committee composed of Drs. Pace, Harris and Keen were appointed to arrange a program for a meeting on the fourth Saturday in January.

H. M. MEREDITH, Secretary.

Crittenden—The Crittenden County Medical Society met in the McConnell Building, Marion, February 5, 1913, Dr. Vernon R. Fox in the chair. The following members were present: T. Atchison Frazer, I. H. Clement, J. R. Perry, C. G. Moreland, V. R. Fox, and J. E. Fox

I. H. Clement not having his paper on "La Grippe" written, proceeded to give us a very interesting lecture on the subject. Discussed by Drs. Perry, Frazer, J. E. Fox, and Clement.

T. Atchison Frazer read a paper on "Cardiac Dilatation" which was discussed by Drs. Clement, Perry, Moreland, V. R. Fox and Frazer.

The next meeting will be held Wednesday, March 5, 1913.

J. ERNEST FOX, Secretary.

Crittenden—The Crittenden County Medical Society met in the office of Clement & Fox, at Marion, January 13, 1913. Meeting called to order by President J. R. Perry.

Members present were: J. R. Perry, T. Atchison Frazer, I. H. Clement, V. R. Fox, and J. E. Fox.

The following officers were elected for the year: President, V. R. Fox, of Crayne; Vice President, E. E. Newcom, of Repton; Secretary, J. Ernest Fox, of Marion; Delegate to State Meeting, T. Atchison Frazer, with J. R. Perry, Alternate.

The next meeting will be held Wednesday, February 5, with the following program: **T. Atchison Frazer**, "The Intestinal Parasites;" **I. H. Clement**, "La Grippe;" and **J. R. Perry**, "Pneumonia."

J. ERNEST FOX, Secretary.

Carlisle—The Carlisle County Medical Society met at Bardwell, December 3, 1912, with President T. J. Marshall, presiding.

The members present were, W. Z. Jackson, G. W. Payne, H. T. Crouch, H. A. Gilliam, T. L. Lamkin, R. T. Hocker, T. J. Marshall, J. F. Dunn, H. P. Mosby.

G. W. Payne read an able paper on "Pancreatitis." He, as well as the entire society, has had very little experience with the disease. The paper was lightly discussed by the society and in closing by the essayist.

W. L. Mosby made a very valuable, as well as interesting, talk on collections, etc.

T. L. Lamkin next presented a well prepared paper on the "Menopause."

Last on the program was the President's Annual Address, by **T. J. Marshall.** He thanked the members for their support and untiring efforts and expressed his desire for the society to continue to grow and progress each year.

The following officers were elected for 1913: President, C. D. Shelbourne; Vice President, H. A. Gilliam; Secretary, J. F. Dunn, re-elected; Treasurer, W. Z. Jackson, re-elected; Censors, G. W. Payne and T. L. Lamkin.

The society adjourned to meet in Arlington in March.

We have a peaceful and hustling little society. There are only four doctors in the county nonmembers, two of which have dropped out in the last 12 months, the remaining twelve are sticking close and working faithfully. The members all respond willingly and readily when called upon, and in fact, we have a great pride in our little band.

Trusting that you may be an aid in getting the two "fallen from grace" members back into the ranks also the other two who have never tasted our society's richness, we are

Fraternally,

J. F. DUNN, Secretary.

Daviess—The Daviess County Medical Society held its regular quarterly meeting on December 17, with thirty-eight members present, and two visitors, D. O. Hancock, State President, and H. J .Farbach, of Louisville.

J. H. Harrison, of Hawesville, presented a withdrawal card from the Hancock County Medical Society and requested to be admitted to the society. We complied with his wishes.

Irving Denton, of Fordsville, made application for membership.

J. W. Ellis made a very interesting report of the State Meeting. He expressed regrets that every member of our society was not present at that meeting for it was the best he ever attended.

M. A. McDonald also made a good report of the meeting.

D. O. Hancock gave a very interesting talk on the State Society. And right here permit me to state, was the first I had heard of an attempt to raise the State dues, and as I was collecting right along our society did nothing in the matter.

S. J. Harris reported "A Case of Hemiplegia Following Typhoid Fever," in which fever temperature was never over 104 degrees. When paralysis came on temperature was below normal and pulse was 120. Lost his voice and could not retain urine nor feces. Treated him with tonics and electricity, using combined current. He is gradually improving but not fully recovered. Gave five grains iodalbin three times a day. Not syphilitic. They wanted to try the osteopath but I objected.

W. F. Stirman, in disscussion, said. Lesion must be near median line, because of the paralysis of the tongue, bladder and rectum. He did not think patient would ever fully recover, for permanent injury had likely been done to brain tissue. Would not give iodolbin, but friction by either massage or electricity.

W. L. Tyler had a similar case following typhoid fever; was glad to hear Dr. Harris' report, for he could find nothing similar reported in the books. Thought his case was due to severe toxemia. An unfavorable prognosis was given, but patient has fully recovered. Did so in three months.

P. D. Gilliam thought the lesion was due to syphilis.

W. A. McKenney thought electricity would do no good.

T. J. Dixon would suspect myocarditis.

The following officers were elected to serve for one year: President, W. L. Tyler; Vice President, J. Glohn; Secretary-Treasurer, J. J. Rodman; Censor for three years, W. E. Irvin; Delegate, P. D. Gilliam.

Here adjournment was taken to the Rudd House, where a five-course dinner was served us

After that, being too full for utterance, we sat and listened to a very excellent paper read by **H. J. Farbach** on "Recent Advances in the Treatment of Infectious Diseases," and then adjourned.

J. J. RODMAN, Secretary.

Harrison—The Harrison County Medical Society held its regular monthly meeting at the Harrison Hospital, January 6, 1913. President M. McDowell presided. On account of the rain this was in point of attendance the smallest meeting we have had in years. Those present were Drs. McDowell, Rees, Wells, N. W. Moore, Martin and W. B. Moore.

J. Martin reported a case of "Leukemia" in a woman about 65 years of age. In this case the spleen filled the entire abdominal cavity. The patient also has frequent attacks of renal colic and has passed a large number of calculi.

M. M. McDowell reported a young man, occupation, painter; who was seized with a convulsion while at work, the attack recurred in a few hours. There was no evidence of lead poisoning. Nothing abnormal found in urine. Patient put on iodide potassium.

W. B. Moore read a paper on "Delayed Resolution in Pneumonia." The paper was very fully discussed by Drs. Martin, Rees and Wells.

C. M. Clifford was granted a transfer card to the McClain County Medical Society, of Illinois. Dr. Clifford was one of our most enthusiastic members and the society regrets that he has seen cause to locate in another state.

Motion unanimously carried that a vote be taken next regular meeting to amend our by-laws in order to increase our dues to $3.50 per annum, and the Secretary was instructed to notify each member of the proposed amendment.

Meeting adjourned to meet the first Monday night in February.

W. B. MOORE, Secretary.

Henderson—At the annual business meeting of the Henderson County Medical Society, held at the Y. M. C. A. building in Henderson, December 9th, 1912, the following officers were unanimously elected to serve for the year 1913:

President, Robt. H. Moss, Henderson; Vice President, E. Branson, Geneva; Secretary and Treasurer, Peyton Ligon, Henderson; Censor, Arch Dixon, Henderson; Delegate, W. A. Poole, Henderson; W. T. Travis, Hebbardsville; Alternates, H. S. Zerman, Corydon; E. L. Busby, Zion.

Our annual banquet will be held December 31st, at 8 o'clock. We are anticipating a royal feast and a splendid good time. This will be a fitting close to a splendid year's work. I am sure, in glancing over the enclosed menu your mouth will water and we sure would be glad to have you with us upon this occasion.

PEYTON LIGON, Secretary.

Logan—The annual business meeting of the Logan County Medical Society was held at the court house on January 14th, 1913. The following officers were elected for the year 1913:

President, F. W. Lee, Olmstead; Vice Presidents, Dr. Hanford of Russellville, and Dr. Haberer of Dunmer, and T. H. Turner of Auburn; Secretary and Treasurer, Walter Byrne, Jr., of Russellville; Censor, Starling Alderson of Russellville.

WALTER BYRNE, Jr., Secretary.

Muldraugh Hill—The meeting of the Muldaugh Hill Medical Society was called to order at 10:45 A. M., in the City Hall, about twenty-five members being present. Dr. Ridgway presiding.

Minutes read and approved.

Motion made by Secretary to have a regular statement sent to all members each December for one dollar dues in order that we might gradually accumulate a fund. Financial statement showed a balance in the treasury of $5.96 exclusive of dues collected at this meeting.

The Secretary reported futile efforts to enlist the interest of the men of Grayson county; also that of Breckenridge and Meade. No action was taken by the society on this matter.

SCIENTIFIC PROGRAM.

The program was opened by **S. H. Ridgway** reporting Cases of "Kidney Infection," previously reported, and two cases of "Typhoid Infection of the Appendix."

W. C. Dugan believed that the appendix cases were rather regular appendicitis cases coincident with the typhoid.

F. T. Fort reported a case following typhoid with infection of appendix that evidently discharged through the bowel.

A. D. Willmoth seconded the remarks of Dr. Dugan and reviewed the literature of reported cases. Showed an appendix recently removed like cases reported.

W. C. Dugan spoke again of the danger of mistaking a pain in the abdomen at this time and thought every man should be on the lookout for such infections so that the patient could get the benefit of an early operation.

R. C. McChord seconded remarks of Dr. Dugan and emphasized the danger of delay for fear of spread of infection that puts the patient beyond the pale of surgery.

J. L. Atkinson spoke of a case similar to one reported with a tumor in right side in a case of typhoid where no operation was done with recovery of patient.

C. T. Riggs in the chair asked if the typhoid bacillus would cause trouble alone or is it a mixed infection.

A. D. Willmoth answered Dr. Riggs' question that a pure infection is possible.

S. H. Ridgway, in closing, thanked the members for their discussion. Spoke of the danger of unduly urging family for operation for fear of being criticised in case of death.

J. L. Atkinson reported five cases of "Intra-Capsular Fracture of Femur."

F. T. Fort complimented Dr. Atkinson's conclusions in first preserving life rather than carrying out ideal methods. Spoke of impaction by falling on trochanter. When crepitus is present extension is indicated. Precautions against bruises and bed-sores. Get patient up as soon as possible.

R. C. McChord, discussing the case, complimented Dr. Atkinson on the conduct of these cases. Thinks diagnosis should be made with the minimum of manipulation. Make patient comfortable as possible in impaction and don't bother. In cases not impacted thought bony union possible inside capsule. Gave Dr. Maxwell's reports with Buck's apparatus supplemented with lateral traction. Thinks prognosis is usually made too grave. Healing often takes place. Above all, don't manipulate impacted fractures.

J. D. Allen reported a case of Dr. Murphy's, who cut down on a case of intra-capsular fracture, where the head had been removed and a new one constructed. Case was a splendid result.

E. J. Strickler spoke of the long spica bandage with forced abduction of Dr. Whitman and stated that such treatment was adopted only in young subjects.

J. L. Atkinson, in closing, spoke of the diagnosis. Thought shortening and eversion made diagnosis positive. Thought the chief difficulty in getting good results was the uncertainty of getting both shaft and head in proper position; the broken head giving the most trouble.

Before retiring for dinner the Secretary spoke of Dr. Pfingst's illness and moved that the society rise and congratulate Dr. Pfingst on his recovery. Carried.

On motion, the Secretary and Dr. O'Connor, of Elizabethtown, were appointed a committee to investigate the feasibility of employing a stenographer for reporting in full the deliberations of the society with power to act. Carried.

C. T. Riggs extended an invitation to the society to meet with him in April. Following this the society adjourned for dinner at 12 M.

After dinner the society convened at 1 P. M., the scientific program being resumed by **W. C. Dugan** giving a talk on "Injuries About the Hip-Joint."

A. D. Willmoth followed immediately with his paper on "Remarks on the Treatment of Compound Fractures."

R. C. McChord congratulated Dr. Dugan on his exposition of the subject. Referred again to the fact that bony union was possible within the capsule. One should not handle cases too much. In cases of doubt as to diagnosis treat as a fracture.

In speaking of Dr. Willmoth's paper he emphasized the necessity of asepsis and keeping hands out of the wound. Iodine technic not essential

F. T. Fort spoke of pain down inside of leg in intra-capsular fracture. Should take note of the fact that the head of femur tends to rotate upward and outward. Dr. Fort advocated iodine technique without soap and water. Uses moulded plaster casts in compound fractures. Uses moist dressings of alcohol, glycerine, and saline. Thought bone plates of use only in exceptional cases.

W. C. Dugan advocated binding fragments to drill holes in them through a short incision instead of making long incisions. Also iodine technique without soap and water.

J. L. Atkinson reported cases of fracture of femur showing difficulties of diagnosis especially when no shortening occurs at first. This usually developed later.

C. T. Riggs made a motion to hold the meeting of the society in April at Upton, as his guest. Carried.

A. O. Pfingst read a paper on "Something About the Maxillary Antrum." Several of the members rose and congratulated Dr. Pfingst on his paper.

G. C. Hall, in the discussion of the paper, called attention first to the futility of trying to relieve pain in the acute cases with opiates. Emphasized the importance of opening up the natural orifice for drainage by shrinking parts with adrenalin, 1-10000, and cocaine applied to middle turbinate; then having patient lean over with infected antrum uppermost and practice repeated gentle blowings to clear out accumulated secretions. Pressure produces pain and relief of pressure controls it. If drainage cannot be established in this manner it will be necessary to puncture inner antral wall under inferior turbinate and wash out cavity. General treatment consisting of a mercurial purge followed by salines in small doses over several days is indicated. Gentle cleansing of the nose by the patient with instillation of some material like 12½% argyrol controls the inflammation and is beneficial.

In chronic cases operation through the inner antral wall, saving as much of the inferior turbinate as possible, was the operation of choice. It sometimes became necessary to remove the middle turbinate to establish efficient drainage, especially where other sinuses were infected. More extensive operations as the Caldwell-Luc and Dunker procedures were rarely necessary.

A. O. Pfingst, in closing, said that while the vast majority of these cases were types of nasal infection and should be treated by the Rhinologist still a few were of dental origin and all such cases should, of course, receive appropriate dental treatment.

The practice of wearing a permanent tube up through alveolar opening in the antrum was mentioned only to be condemned.

He thanked the members for their discussion.

W. T. Nichols not being present, the President called for voluntary reports.

B. J. O'Connor reported a case for diagnosis that appeared to be one of old empyema of chest wall.

C. T. Riggs reported a similar case with tedious recovery from pneumonia that developed empyema which had been previously diagnosed as tuberculosis.

J. L. Atkinson also reported cases of empyema and pleural effusion. Reported also a case of persistent dullness in the lung without effusion.

R. C. McChord spoke of adhesive bands developing following pleurisy developing pockets of pus.

W. C. Dugan also agreed with Dr. McChord that something was in the chest wall.

G. C. Hall spoke of the possibility of a foreign body in the bronchial tree and the desirability of having an X-ray picture of the chest wall made.

Following this discussion the society adjourned to meet again in April as the guests of Dr. Riggs at Upton.

Members will please note the change of the place of meeting and make their arrangements accordingly.

It was also decided by the society that regular dues of one dollar a year should be assessed against each member due each December and the Secretary should send notice to all members to that effect.

GAYLORD C. HALL, Secretary.

Monroe—At a meeting of the Monroe County Medical Society, Thursday, December 19, 1912, Jesse T. Smith, Gamaliel, was elected President; Geo. W. Bushong, Tompkinsville, Vice President; R. F. Duncan, Tompkinsville, Secretary-Treasurer, and E. E. Palmore, Strode, Delegate.

E. E. PALMORE, Secretary.

Pendelton—The Pendleton County Medical Society met at Butler, on Wednesday, January 8th, 1913, with the following members present: President-elect O. W. Brown; W. B. Chipman, H. C. Clark, W. A. McKenney, John E. Wilson, J. Ed Wilson, W. H. Yelton, E. A. Cram.

The meeting was called to order by President Brown, and after roll call, we proceeded to the business of the day. The Secretary and Treasurer made a report of the amount of money collected and expended during the year, and made a satisfactory settlement. As there were no essayists prepared with papers we entered into a general discussion of the welfare of the society. On motion we pay the additional 50 cents for medical defense. Motion carried.

The society then adjourned to meet the second Wednesday in February, 1913.

W. A. McKENNEY, Secretary.

Russell—Regular meeting of the Russell County Medical Society was held at the Holt Hotel, Jamestown, January 30, 1913.

Owing to sickness in the immediate families of some of the country physicians, they were unable to attend, while others, we suppose, were hindered on account of bad roads, etc.

No quorum being present, we suggest and recommend that next meeting of the Russell County Medical Society be held at "Pine Grove" Church, near Sunshine, on April 3, 1913; and further suggest that the President of the Society make out an appropriate program for a Public Health Meeting at the aforesaid time and place, and that the public generally be invited to aid and assist in said meeting.

JNO. D. COMBEST,
J. B. SCHOLL,
W. G. D. FLANAGAN.

Scott—The Scott County Medical Society met January 23rd, and had one of teh best meetings ever. Dr. Johnson presided in the absence of the President. Those present were, Drs. Heath, Knox, Downs, Herring, Coons, Porter, Allphine, Barlow, Johnson.

We adopted the resolutions in regard to the pernicious fee-splitting sent us by the Southern Medical Association.

W. S. Allphine read a paper o n''Scarlet Fever.'

E. C. Barlow read a paper on ''Diphtheria.''

Both papers were pronounced excellent and met with a hearty discussion from all present.

We look forward with interest to the meeting next month for the interesting subjects for the program.

E. C. BARLOW, Secretary.

Shelby—The Shelby County Medical Society at its last meeting elected the following officers for 1913:

President, Evert Hankins; First Vice President, S. L. Beard; Secretary and Treasurer, W. E. Allen; Delegate to State Meeting, H. B. Berryman.

W. E. ALLEN, Secretary.

NEWS ITEMS AND COMMENTS

Dr. W. S. Stuckey recently house surgeon of the New York Post Graduate Hospital and the Manhattan Eye, Ear and Nose Hospital, is now associated with his father, Dr. J. A. Stucky, in the treatment of diseases of the eye, ear, nose and throat at Lexington, Kentucky. Dr. Stuckey is a graduate of the Medical Department of the University of Michigan and it is a pleasure to congratulate both of the Drs. Stuckey that the son will continue the work, which has given the father a national reputation.

Bourbon—Dr. Geo. Kent Varden, a native of Paris, Kentucky, now practicing as specialist in Diseases of Children at Atlanta, Georgia, was married on January 16th, to Miss Grace Calloway, of Atlanta, and after a trip to Palm Beach, has returned to Atlanta, 625 Candler Building, where he is doing well.

On January 7th, 1913, the eye and ear specialists of Louisville, New Albany and Jeffersonville, organized the Louisville Eye, Ear, Nose and Throat Society, the object of which is for study and discussion of all subjects pertaining to this specialty.

Out of twenty-eight eye and ear men, fifteen were present, and many of the others promised their support to this society.

Adolph O. Pfingst was elected President; W. J. Leach, New Albany, Vice President, and J. R. Peabody, Secretary and Treasurer.

The meetings will take place the second Thursday of each month in the offices of its members.

Doctor H. W. Powers has resigned his position as Medical Superintendent of the Kenilworth Sanitarium, Kenilworth, Illinois, to engage in general practice in Wilmette, Illinois. The position made vacant at the Kenilworth Sanitarium by Dr. Powers' resignation has been filled by the appointment of Dr. Sherman Brown formerly Assistant Physician of the Kings Park State Hospital at Kings Park, Long Island, New York.

BOOK REVIEWS

Safeguarding the Special Senses—By Henry O. Reik, M. D., illustrated by F. A. Davis Company, publishers. This book contains genearl advice regarding the use and preservation of the eyes, ears, nose and throat and is of practical value to practitioners.

Principles and Practice of Obstetrics—By Joseph B. DeLee, A. M., M. D., Professor of Obstetrics at the Northwestern University Medical School. Large Octavo of 1060 pages, with 913 illustrations 150 of them in colors. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $8.00 net; Half Morocco, $9.50.

The subject matter of this excellent volume is divided into four parts: Physiology of Pregnancy, and Labor, and the Puerperium, The Conduct of these conditions, Pathology of Pregnancy, Labor and Puerperium; and Operative Obstetrics. It is profusely illustrated with original pictures and drawings from fresh specimens and form a valuable part of this. It is one of the best books that it has been our pleasure to see for a long time.

Outlines of Physiology—By Edward Groves Jones and Allen H. Bunce, Third Edition, 372 pages and 111 illustrations, by P. Blakeston's Sons & Company, Philadelphia. Price $1.50.

Volume 4, 5, 6, 7, and 9 of the Practical Medicine Series, 1912.—These are devoted to gynecology, general medicine, obstetrics, skin and venereal diseases, pediatrics and orthopedic surgery and are in line with the general utility of this series.

Skin Grafting for Surgeons and General Practitioners—By Leonard Freeman, with 130 pages and 24 illustrations. Published by C. V. Mosby Book Company, St. Louis. This is an exceedingly practical treatise on the subject and its clear text and photographic illustrations make it a value to the physician.

Surgery and Diseases of the Mouth and Jaws—A practical treatise, by Vilray Papin Blair, of 603 pages and 384 illustrations. This book takes up all the practical operations of this region and shows the important steps by original drawings and photographs; shows results of hairlip before and after operation, contains special chapters on surgical principles and complications of hemorrhages and is altogether a very valuable book.

Health and Longevity Through Rational Diet—By Arnold Lorand, Carlsbad. Published by F. A. Davis Company, Philadelphia. This handsome volume contains practical hints in regard to food in the usefulness or harmful effects of the various articles of diet and it is commended to the profession.

Man and Woman—A study of human secondary sexual characters, by Habelock Ellis, 4th Edition, 8 mo. containing 475 pages, published by Walter Scott Publishing Company, Ltd., secured through Charles Scribner's Sons, Fifth Avenue, New York. This is a scientific discussion of the subject named and will appeal to those who are interested in this kind of research.

Volume 3 of International Clinics, 22nd Series—Published by J. B. Lippincott Company. This volume contains a number of excellent illustrated pages on Diagnosis and Treatment, Medicine, Surgery, Ophthalmology, Obstetrics, Gyneoclogy and Occupational Diseases. The price of this book is $2.00.

Text Book of the Physiology for Medical Students and Physicians—By Wm. H. Howell, Professor of Physiology in the Johns Hopkins University, Fourth Edition, thoroughly revised, published by W. B. Saunders Company. In this edition, a diligent search has been made through the literature of the subject and new facts that have been discovered have been inserted and old views disproven have been discarded. Sufficient line of demarkation is noticed in the presentation of facts and theories to enable the practical man to say this is so or this is believed. In applying physiological facts to practice of medicine, this feature is of extreme value. The book may be accepted as the court of last resort in the statement of facts of physiology.

International Clinics, Volume 4 22nd Series—Received from J. B. Lippincott Company. The price of this book is $2.00. It includes articles by Berkeley, Anderson (London), Baumann, Abrams, Walsh, Wilkie, Eves, Palmer and Bowers, with colored plates, charts, diagrams and figures. It is comprehensive and in line with the excellence of others of the series.

Rachford's Diseases of Children—A practical treatise on diagnosis and treatment for the use of students and practitioners of medicine. Published by D. Appleton & Company, New York and London. Price $6.00. In this book it outlines briefly his pathological findings and has avoided unnecessary etiological discussions in order to put more stress upon differential diagnosis and treatment of these diseases. A great deal of attention has been given to the physiological factor of diseases in infancy and childhood and, altogether it is a valuable addition to the physician's armamentarium.

Text Book of General and Special Pathology for Students and Practitioners—By Henry T. Brooks, illustrated with 525 half-tones and other text engravings (110 in colors) also, 15 full-page plates in colors by F. A. Davis Company, publishers, Philadelphia. In this work, most of the author's efforts have been spent upon the essentials and in presenting in a concise form the gross and microscopic pathological anatomy, which is believed to be most frequently desired by the student and practitioner, a working knowledge of which, will enable the practitioner to intepret clinical symptoms.

The Mosquito, Its Relation to Disease and Its Extermination.—By T. H. Doty, Formerly Health Officer of the Port of New York. Illustrated. D. Appleton and Company, Publishers, New York and London.

The author has endeavored in a plain, practical way to bring together such information regarding the mosquito and its extermination as will be useful to those who may be interested in this work. It is abundantly illustrated and convienient size.

THE FORUM

To the Editor:

I am undertaking an exhaustive research into the pathology, etiology and dieto-therapy of Diabetes Mellitus. I am very anxious to hear from every physician in the United States who has a case under treatment, or who has had any experience in the treatment of this malady. Von Noorden says "the best treatment for the diabetic is the *food* containing the *greatest* amount of *starch* which the patient can bear without harm." If any physician who reads this has similar or contrary experience, and would take the trouble to write me, I would esteem it a special privilege to hear from him, if only a postal card.

Kindly address,
William E. Fitch, M .D.,
355 W. 145th Street,
New York City.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. NO. 6   MARCH 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

HAVE WE A TRACHOMA PROBLEM?

By C. T. WOLFE, Louisville.

The question "have we a trachoma problem" could possibly be asked by every country in the universe. So wide spread is this disease that it attacks all races and all classes. To be sure, some more than others and the negro the least of all. This race seems to possess a certain degree of natural immunity.

There is no more obscurity attached to the historical aspect of any disease than there is to trachoma. For no definite data can be given as to when this disease appeared among the civilized nations. Although it is said that primarily trachoma is an Egyptian disease, where it is still alarmingly prevalent and that during the Napoleonic invasion it was carried to Europe by the soldiers, thousands of whom developed the infection, rendering them unfit for military duty and upon returning home they disseminated the disease.

The first point that I should like to emphasize is that trachoma is essentially a chronic disease with years, as a rule, intervening between the time of its incipiency and the terminal stage, depending upon the management of the case and whether the most appropriate treatment is administered or not.

Trachoma is a disease of the eye, beginning as an acute conjunctivitis, characterized by the formation of granulations, upon the conjunctiva, very difficult of diagnosis or rather differention from kindred eye diseases at its initial stage, and resulting in impairment of vision or blindness, unless arrested early. The terrible inconvenience that this disease imposes upon its victims can hardly be conceived by those who are not actively engaged in its treatment.

In order to get a clear understanding of the picture these unfortunate individuals offer let us take an acute case, follow it through the three stages characteristic of the disease and note the symptoms.

As a rule the patient presents himself at the office or more often the clinic, stating that he was sent by the nurse or school physician to have his eyes treated. The inconvenience that he has experienced has not been sufficient to prompt him to seek medical advice. He has possibly noticed a burning or stinging sensation in the eyes on different occasions, some redness of the eye lids, photophobia, lacrymation and a discharge of thin seropus. On examination, the conjunctiva appears swollen with or without the appearance of the characteristic granules. These elevations, so aptly characterized by the old phraseology of "granulated lids," may be masked by the overlying, infiltrated conjunctiva. Again ptosis may be a marked symptom, due most likely to the change the conjunctiva is undergoing. This patient may have been afflicted for months, indeed they sometimes wait before seeking an examination, until their vision is interfered with and the associated photophobia and lachrymation are marked.

At this ,the initial stage, it is greatly to be deplored that there is no diagnostic point that will enable the general practitioner to differentiate this disease from follicular conjunctivitis—to say nothing of the difficulty encountered by the specialist.

The similarity between these two diseases is striking. They both multiply under similar circumstances of bad air and poor environment. The follicles are said to be identical both microscopically and macroscopically. In the beginning stage of trachoma there is very little, if any, thickening of the conjunctiva, which condition is noted in follicular conjunctivitis. However, the arrangement of the follicles in rows is characteristic of the latter. The trachoma granules are usually confined to the palpebral conjunctiva and its upper retrotarsal fold and many authors have likened their appearance to that of frog's spawn.

Therefore, noting that in the acute stage the symptoms of these two diseases are markedly similar, we cannot be absolutely positive of our diagnosis until the second stage. Here the distinguishing difference is that in follicular conjunctivitis the condition tends to spontaneous recovery leaving a normal conjunctiva. Trachoma progresses and its effects upon the conjunctiva are such that it is never repaired.

Let us take it that the conjunctiva of our particular case has now reached the second stage of trachoma. Symptoms now present themselves which enable us to confirm an already suspected diagnosis. The palpebral conjunctiva in addition to being hypertrophied is studded with granules which are undergoing destruction, causing a rough and uneven surface, quite characteristic of the disease, and the tarsal cartilege is very noticeably thickened. This rough conjunctiva, according to some, predisposes to a condition in which newly formed blood vessels appear beneath the epithelium of the cornea, known as pannus, while others contend that pannus is not due to this irritation, but is a direct extension of the trachoma process to the cornea. Be this as it may, in pannus we have a symptom which to most of us is pathognomonic of trachoma.

It is in this second stage that we see our patients most often for the first time, as it is now that their real suffering begins in most cases wth associated impairment of vision, and the photophobia, lachrymation and discharge which may have been giving but little trouble are now intensified.

The disease after a very indefinite time passes into the third and last stage, in which stage it becomes arrested. Connective tissue has replaced the conjunctiva of the eyelids and the tarsal cartilege is in an atrophic condition; the result being that the lid is no longer held in its proper position, the lashes inturning constantly irritating the already inflamed cornea, which mechanical action prevents the pannus from clearing up. Exudation into the cornea occurs and thus our patient must go the rest of his days with his vision partially or totally destroyed, a burden to himself and society.

The etiology of this disease is unknown. This can be said of but few diseases as old and which have been as prevalent as this. Nevertheless the fact that the causative agent has not been isolated must not preclude the idea that diligent work has not been done along this line. Such is not the case, but unfortunately, years of research work have only caused certain conclusions to be brought forth- - namely that the disease is contagious and that the infectious agent, whatever it may be, is transmitted by dirty finger nails, clothing, wash basins, etc., as well as school supplies, swimming pools, gymnasium equipment, etc.

A summary of the work done during the past four or five years towards elucidating the etiological factor centers about the so-called trachoma corpuscles or trachoma bodies, described first by Haberstaedter and von Prowaczek. Later it was demonstrated that these bodies not only existed in trachomatous eyes but in eyes entirely free from any evidence whatsoever of the disease, which fact in a measure lessens its value as a distinctive or exciting cause of trachoma.

The prognosis of this disease in most instances depends upon the patient himself, who must undergo a long, tiresome and painful treatment. But the disease taken in its incipiency, handled carefully and judicially offers a rather favorable prognosis.

As to its contagiousness, there can be no doubt, therefore its prophylaxis constitutes an important problem. Cases should be isolated, given individual wash basins, towels, etc., instructed as to the danger of transmitting the disease to others and the treatment carried out from a scientific standpoint.

The treatment resolves itself into two forms, medical and surgical. There has been no advance in the medical treatment during the last few years. However, the remedies used are effective, but slow. The patient himself, is responsible in many instances, for unsuccessful results. He neglects the physician's advice or become discouraged on account of the painful treatment and loss of time; or through a relapse or an acute exacerbation which is a common occurrence.

As to local applications, innumerable substances have been used, indeed, I feel safe in saying that there are but few antiseptics or caustics the use of which is permissable in ocular disorders that have not been used to alleviate the distressing symptoms of this disorder. The main remedies depended upon to lessen the inflammation and hypertrophy are copper sulphate and nitrate of silver. The use of either gives rise to much pain. Bichloride of mercury 1-5000 and saturated solution of boric acid are useful in lessening the discharge. In mild cases after the caustics have decreased the hypertrophy of the conjunctiva an astringent of tannin and glycerine (60 gr. to oz.) or the crystals of alum is beneficial. The X-ray is recommended by some, but our experience with its use is too limited to express an opinion of value. Jequirity or jequiritol serum is advocated in the treatment of pannus and is of undoubted value, but its use is not without danger.

Numerous operations have been tried, but the one that is done most comes under the head of expression or squeezing out the granules. This operation not only shortens the duration of the disease but makes the application of remedial measures more effective and lessens the congestion. Operations for the relief of pannus and extirpation of the tarsal cartilege are often indicated and the results usually gratifying. The subjects of this disease give frequent manifestation of lowered vitality and malnutrition. Therefore, advice as to the advantage of fresh air, good nutritious food and the best of hygienic surroundings will be of untold value.

After the acute symptoms have subsided, we make it a fast rule to refract these patients which procedure is scarcely mentioned in the text books. We have yet to find a person so affected that did not manifest a refractive error, the correction of which has a beneficial effect in relieving the congestion and other aggravating symptoms for which it is to some degree responsible.

In the perpetuation of this disease for these hundreds of years, environment has played an important part. That it is more common among certain races than others is not due to a racial predisposition, but to unhygienic surroundings and unclean habits. It is essentially a disease of the poor and is mostly a rural problem. To be sure there are some cases, mostly of a mild nature, although occasionally of a serious character, in the various clinics of larger cities, but the percentage is, comparatively speaking, very small and in our opinion is not spreading to a noticeable degree, especially in Louisville. The records at the Louisville City Hospital show that not more than 3% of the eye cases treated are trachoma and this percentage has not increased during the last five years. But why does this disease thrive more readily among the poor and in the country districts? This question is answered by Dr. McMullin, of the public health service, who recently found the disease so prevalent in the Kentucky mountains.

Quoting from Dr. McMullin's report, "The people in that district (Kentucky mountains) suffering most from the disease are of the poorer class, who live in simple, small cabins. Large families, as a rule, and 10 to 15 in one family is not uncommon, the average about 8. The cabin consists of one room where they all sleep, cook, eat, etc. They all use the same large family towel for days and this is one of the greatest sources of infection. Some of the cabins have no windows, or they are so small as to be absolutely inadequate to provide the necessary ventilation." This method of living is suitable for the propagation of any contagious disease. On the other hand, the inhabitants of a city certainly have had the opportunity to acquire a little knowledge of hygiene. Even in the poor districts of the city, where conditions are not what they should be it might be said that cleanliness is a common virtue and the people keep their hands and faces clean. Living in the city necessitates that people wash their faces and hands once or twice daily and in this one thing it is readily seen that the propagation of trachoma is necessarily held in check. In the city the people have no difficulty in securing medical advice, and they are informed of the necessity of consulting a physician early. Even though the affected individual is of the poor class, seeking charity, he can obtain the same almost within walking distance of his home, so there is not necessarily any delay or neglect in treating or attempting to cure the disease, unless it be the indifference of the patient, which indifference in our experience is rarely found in a clinic. On the other hand the difficulties patients, who live in the country, for example, in the mountains of Kentucky, have in reaching physicians are obvious. Then, the absence of free clinics multiplies the difficulty. We know that trachoma requires daily treatment, or at least three times a week, which to many poor people in rural districts is impossible.

These are some of the reasons that make us believe that in Louisville or any of the large cities trachoma does not present a problem, and that in some districts in the country it presents a serious problem.

DISCUSSION.

S. G. Dabney: I have very much enjoyed Dr. Wolfe's resume of our present knowledge of this subject. I sometimes wonder whether the diagnosis of trachoma is not often erroneously made in immigrants seeking entrance to this country. This was particularly impressed upon me by one case in an employe of a lumber concern of this city, who sailed from Liverpool and was turned back from New York because, as he was told, he had trachoma. The man really had nothing more than an ordinary granular ulcer. His employer saw the United States Consul and, after a special examination, the man was permitted to enter. As

Dr. Wolfe has pointed out, it is not always easy even for oculists of considerable experience to be certain of the diagnosis of trachoma, or to differentiate it from follicular conjunctivitis. Some textbooks consider both to be types of the same disease, but personally I believe them to be entirely different entities.

I do not believe the essayist mentioned the fact that the spread of the disease in Europe was, in a large measure at least, due to the mistake of an oculist. When the Belgian troops returned from the front in 1805, the army surgeon consulted an oculist on account of some eye disease among the men. The oculist told him to allow the men to return to their homes, which he did. The disease proved to be trachoma and the result was a general spread of the disease over that part of Europe.

The race question is a very interesting one in connection with this subject. A number of years ago Dr. Rodman read an interesting atricle on "Race and Disease," before the American Medical Association, in which he mentioned trachoma. It seems strange that if poverty, dirt, and lack of hygiene play such a great part in the etiology of this disease, the negro race should be practically immune to it, yet such is the case. It is true that a few cases have been reported in negroes, but they have been very few indeed. On the other hand, the American Indian appears to be particularly prone to trachoma, and the Government has taken active steps for the treatment of the disease in that race.

One peculiar feature is that every now and then we all agree that trachoma is easily communicable, yet I have a case on hand now in which there has been an affection of one eye for several months and, while no particular precautions have been taken to avoid infection of the other eye, it has not become involved so far. Such cases as this are apt to make us think that there must be some condition of the conjunctiva in one eye that creates an immunity to the disease. I believe it is due to some organism or bacillus that has not yet been discovered. It runs a definite course as discases of that type so often do.

Seen in the acute form, trachoma may readily mislead anybody. In many instances it very much resembles gonorrheal ophthalmia. Frequently we see a young man with the lids enormously swollen and looking very much like the first stage of gonorrheal ophthalmia, and it is two or three weeks before we can make a positive diagnosis. It is claimed that such cases are not true ophthalmia, but that this disease is complicated by a violent acute conjunctivitis of other types.

As to prognosis, I think we are justified in giving a good prognosis where there is no decided corneal opacity, or none over the pupillary area in cases that have remained a sufficient length of time under treatment. We should warn the patient against relapses. The expression operation, to which I am partial, by no means insures the patient against relapse. Every now and then, even after the most careful expression operation, we see a relapse. Fortunately, however, those relapses I have seen have been much less virulent than the original attack.

Jos. J. Shafer: The discussion seems to have sifted down to the differential diagnosis of follicular conjunctivitis and trachoma, which is of particular interest to the general practitioner, but the specialist, I believe, is often at a loss, in the early stages of this disease, to arrive at a positive diagnosis, because it is attended with great difficulty. In fact, oculists of years and years of experience often hold judgment in suspense until they are guided by the subsequent course of the disease. Practically, however, it is of the greatest importance that the diagnosis should be made early, if possible, because in trachoma we have a disease that is serious in its consequences and very destructive, with shrinking of the conjunctiva, pannus, ulcer, trickiosis, entropion, etc., and in some cases total destruction of the sight, while in follicular conjunctivitis the disease usually runs a benign course, with no evil consequences; in fact, a great many of them get well without any treatment whatever. In both diseases we have a deposit of lymph follicles with characteristics in their formation that are similar to both. However, in follicular conjunctivitis we have a lymph deposit that is sharply cutlined, and point above the surface of the conjunctiva, while in trachoma they are feebly outlined and not very prominent. Fuchs used a sterotyped expression in his lectures that from a hypothetical standpoint sounded very good, but I have found out since that there is not much in it. He said that in follicular conjunctivitis Nature seemed to employ unionized labor, that placed her oblong-lymphoid tylings in such perfect row that they resembled a beautiful string of pearls, whereas, in trachoma Nature seemed too poor to employ Union labor and consequently the deposits of round lymphoid tylings were placed in a careless, reckless and irregular manner.

In the past year, as ocular surgeon to an institution containing about 135 children, I have had my share of trachoma, and I have had a definite understanding with the government of this institution not to permit a child to enter it that gave a history of sore eyes, past or present, unless examined by me. Some time ago I was called down there to see a child who had come from the mountain district of Kentucky. I examined the child's eyes and from the destructive lesion I had no doubt that it was trachoma. I requested to see the balance of the children in the institution and upon examination I found that every one was afflicted with trachoma. Fortunately, in this institution, the attendant who at one time was a trained nurse, kindly took care of the discreet variety and ironed them out, twice daily with the alum stick, and the confluent variety with Knapp's Roller Forceps. Twenty-five or thirty were taken to the infirmary and expressed. In an institution of this kind, where isolation and segregation is difficult if not impossible, it is a very hard matter to eradicate trachoma. The usual sanitary measures were carried out. All metallic and wooden utensils were sterilized, the bedding and clothing treated in like manner,and the institution from one extremity to the other washed with an antiseptic solution. But where human masses are confined as in any institution we will find it difficult to thoroughly eradicate trachoma, because one unwashed door-knob will flame trachoma back into life.

Adolph O. Pfingst: The essayists's question whether or not we have a problem can unhesitatingly be answered in the affirmative. We certainly have a problem, not only in the causation of the disease, but in the pathology and treatment. We know that ocular pathologists and bacteriologists have worked upon this question for years without arriving at any definite conclusion as to the etiology or pathology of trachoma.

Going back to what the essayist said about the pathology of trachoma, many of the text books attempt to classify the different varieties, but it is a hard matter to stick closely to this division. We all recognize two forms of trachoma, that in which the lids have a velvety appearance, the so-called papular form, and the granular form. In the papular variety the diagnosis is not so difficult as in the granular variety, which shows such marked similarity to follicular conjunctivitis and from which it is at times impossible to diagnose.

In the velvety, or papular variety, as it is called, there appear to be no marked raised portions on the surface, but upon magnification raised portions can be observed, and it is these that give the thick, velvety appearance. From my knowledge of the pathological structure of the lids, there seems to be an increase in the lymph cells at large in the sub-epithelial structures and the formation of large numbers of lymph nodes resembling solitary Peyer's glands. As these form they are crowded together and they give the surface its granular appearance. On cross section the spaces between the raised and compressed follicles resemble tubules and have been mistaken for outlets of glands.

In the granular variety which resembles follicular conjunctivitis, where we have lymphoid nodes developing under the conjunctiva and scattered around in the loose areolar tissue, but they do not mass themselves together as in the other variety. It is these follicles that break down and ulcerate and give us the sequelae we so frequently see in this unfortunate disease.

As to diagnosis, I believe where we have a strictly papular variety, it is not so difficult. We have greater difficulty where there are a larger number of follicles. When we find these fish-egg-like bodies in the lower cul-de-sac only, we are not so apt to look upon the condition as trachoma as when we find them in the upper supratarsal space. In other words the appearance of the follicles on the upper lids is more indicative of trachoma. But even this is not a partial differential sign and we may have to await the course of the disease to be able to determine whether we had trachoma or follicular conjunctivitis to deal with.

Just a word as to treatment. We have a great many forms of treatment for this disease, as is true of all conditions in which treatment is uncertain. The greatest obstacle to successful treatment is that it is a long drawn out affair. Dr. Wolfe has pointed out that trachoma is a strictly chronic disease. Yet, if we can get the patient early and get the lids smooth by rolling them, and then kept the patient under observation we usually get good results by careful after treatment with proper therapeutic agents. However, most of these patients live in the rural districts and insist upon being allowed to go home. Notwithstanding implicit instructions these cases usually neglect themselves after returning home, and often return five or six months later with the condition worse than in the beginning.

It has always seemed to me that cases that have been worked on and then come back are worse than originally, perhaps there is more breaking down of tissue. The fact remains, however, that some cases under the strictest observation go from bad to worse, notwithstanding any and all forms of treatment.

I have enjoyed Dr. Wolfe's paper and commend it as a practical one which should be of benefit to the society.

Gaylord C. Hall: Just a word in corroboration of Dr. Pfingst's remarks regarding the differentiation between follicular conjunctivitis and trachoma. Where we have discreet follicles distributed around the lower lid, anterior to the cul-de-sac, it is not so apt to arouse suspicion of trachoma as where the disease has actually invaded the posterior cul-de-sac of the upper lid. The finding of a little bunch of lymphoid structures, more especially at the outer side of the upper lid, with well marked follicles, would be extremely suspicious of trachoma.

As to whether or not we have a trachoma problem, while in this part of the country, we have, until very recently, drawn the vast majority of our cases from the rural districts of Kentucky, with the advent of more and more foreign laborers into our city, we are going to see more and more cases of trachoma among those immigrants from Southern Europe who come here with the connivance of the steamship companies, which will guarantee to put them in this country for a certain sum of money. Some years ago it was dsicovered that certain steamship companies were furnishing emmigrants afflicted with trachoma with a solution of adrenalin chloride just before examination was made, thus enabling them to escape detection by blanching the conjunctiva with adrenalin.

Dr. Wolfe, in his description of the disease, failed to mention that, in the second stage, we are apt to see repeated or recurring ulcer of the cornea, probably due to secondary infection. I think this is rather a characteristic secondary manifestation of the disease. The development of the typical trachomatous pannus late in the disease is due to the shrinking of the conjunctiva and the binding down of the tarsal ligaments. This, to a certain extent, gives the key to the line of treatment to be followed. In most cases I think the thing to do is external canthotomy and excision of the tarsal ligament, which will free the lids, and upon relieving the pressure there will be spontaneous disappearance of the pannus.

Just a word in regard to treatment. I think there are well-defined indications for the remedies commonly employed. In the first place, we sometimes see the very acute variety mentioned by Dr. Dabney, and in these cases I do not think any one would use copper sulphate solution or crystals, but would rather employ a milder agent, such as a strong solution of argyrol, which is very effective in combatting infections in the acute stage. Nitrate of silver is effective in controlling the discharge, and in the atrophic stage where we want stimulation, that is the time to use sulphate of copper.

In this connection I would like to mention an ambulatory treatment practiced by Dr. Prince, of Springfield, which he claims has proved very effective in cases where the patients cannot be kept under observation. He uses sulphate of copper in glycerine, 10 per cent. and, following an expression operation, he prepares a solution diluted according to the severity of the case and gives it to the patient to take home, with directions to use it twice a day. I have tried this method and found it very effective.

A doctor in Havana some two years ago advocated the application of powdered salicylic acid following the expression operation in cases kept under observation. I have used it in a limited number of cases, and whether or not it was because I watched those cases a little more closely, I do not know, but it seemed to me to produce a smoother healing surface than other methods of treatment. In employing this treatment, the granulations are first thoroughly and completely expressed, and after all the rough tissue has been smoothed the whole surface of the everted lid is gently covered with powdered salicylic acid. It should not be allowed to come in contact with the cornea, as it is apt to produce a superficial blurring of the cornea that will last for several days.

W. D. Levi: One of the speakers mentioned the difficulty of differentiating acute trachoma in the first stage, when there is swelling and discharge, from gonorrheal ophthalmia. It seems to me that the microscope would clear up the diagnosis at once, and I believe microscopical examination should be made in those cases in order to enable us to treat the condition properly.

A most effective treatment of this disease is the use of carbon-dioxide snow, which I have seen used in about twenty cases. The snow is pressed into a firm pencil and applied to affected conjunctiva of lid and formix for two or three seconds, of course taking care not to touch the cornea with the pencil. These treatments may be given weekly and after two or three months many cases are cured by cicatrization.

J. M. Ray: This is a very interesting subject. It seems to me that we should have very little difficulty in making the diagnosis of trachoma. Follicular conjunctivitis gets well with very little treatment; trachoma does not. The former does not amount to much in that it gives rise to no serious complications. I give very little treatment for follicular conjunctivitis; simply an antiseptic wash and try to improve the hygienic surroundings of the patient. We generally see it in institutions where the children are crowded together, although I do not believe follicular conjunctivitis is contagious. On the other hand, trachoma, once it has developed, soon gives rise to very serious complications unless by treatment, either medical or surgical, we are able to arrest the disease.

Just a word in regard to whether or not we have a trachoma problem in Kentucky. I have been practicing ophthalmology here for a long time, and in my early days I saw more trachoma than I do now. For a number of years after the organization of the Kentucky Children's Receiving Home, I was in charge of it. I saw all the children that were brought to it and rarely did I see a case of trachoma among them. I have nothing to do with the institution now, but I understand that those in charge see very little trachoma there. These children are gathered from all over Kentucky, especially the eastern part of the State, and as a rule they come from the walk in life in which we would expect to find diseases of this kind; yet there is very little of it among them. I can look over the map of Kentucky and point out three or four districts from which we get a good many cases of trachoma. I have seen 25 or 30 cases from one particular section during the past five years, in my private practice and clinics. I have never believed that we had trachoma in Kentucky to the extent that some people are inclined to think.

ECLAMPSIA.

(WITH REPORT OF THREE VERY UNUSUAL CASES.)

By EDWARD SPEIDEL, Louisville.

It is intended in this paper only to present the recent findings in this still very obscure subject, as gained from the literature and the late editions of the text books.

In spite of the number of articles appearing in the literature upon this subject, but little advance in knowledge has been made and the condition remains as obscure as ever. Every theory propounded by one investigator is shortly after refuted by another.

It is asserted, for instance, that in all pregnancies there are circulating in the body of the mother, fetal elements, which give rise to a poison, which is normally rendered harmless by an antibody in the maternal serum. If there is any interference with the development of such antibodies, then eclampsia results.

Again it is stated, that in pregnancy at times, there is an alteration in the function of the liver, so that this organ fails to render innocuous certain poisonous products of metabolism and that in consequence we have an auto-intoxication or hepato-toxaemia. When the disturbance is slight the patient merely suffers from nausea or headache, in the aggravated form secondary kidney changes develop which in turn lead to a still further retention of the poison, and the ultimate production of eclampsia.

It is now generally conceded that eclampsia is not a kidney disease and that its most important pathology, does not show in the kidney, in fact, it is now understood that the kidney lesion is always secondary and in some of the worst cases is absent entirely.

The complex pathology of the disease is supposed to be due to a poison circulating in the blood which causes agglutination of the blood cells, these then form emboli and by the solution of the endothelium of the blood vessels give rise to minute hemorrhages in various organs of the body. These hemorrhages are more free in the liver because there the toxins in the blood are enforced by those in the liver, in consequence thrombosis of the blood vessel at the periphery of a lobule occurs, necrosis of the liver cells in that lobule then follows from lack of nutrition, and finally fatty degeneration, so that a cross section of such an eclamptie liver, macroscopically shows scattered areas of liver lobules paler than others. Hemorrhagic areas in the brain are due to the increased blood pressure attending the disease.

The condition is generally gradual in its onset, and offers a number of warning symptoms that should ordinarily put the attending physician on guard. In the early stage of pre-eclamptic toxaemia the patient may complain of malaise, anorexia, slight headache, vertigo, disturbance of vision and edema of the face, puffiness of the eyelids being especially characteristic.

The presence of albumen alone in the urine is no longer considered especially significant, as investigation has demonstrated that it can at times be found in 50% of pregnant women, in the latter months of gestation. An increase in the amount of albumen with tube casts is more significant. More attention is now paid to the total amount of urine excreted in 24 hours and especially to the percentage of urea passed with it and if the excretion of urea steadily decreases with no diminution in the amount of nitrogenous food ingested then there is supposed to be distinct danger of eclampsia.

Williams claimed that the estimation of the ammonia nitrogen content of the urine would prove a feasible guide to the state of toxaemia, but this is disputed by other observers and his other suggestion dependent upon the determination of the absolute nitrogen contained in the urine is a test that can only be carried out successfully in a chemical laboratory and consequently would be useless for practical purposes. Of late a great deal of attention has been paid to the blood pressure of pregnant women. Hirst in an examination of 100 normal women found the average pressure 112 m.m. In 100 pregnant women it averaged 118 m.m. When the blood pressure rose to between 125 and 150 m.m. he considered it as an evidence of beginning toxaemia and beyond 150 m.m. as evidence of the pre-eclamptic state.

During eclamptic convulsions the blood pressure was found to go as high as 260 m.m.

Great stress is also laid upon the ocular symptoms in this condition especially because they are generally present in those cases in which the examination of the urine is negative. There may be only dimness of vision in the early stage or complete loss of sight in grave toxaemia. The condition may be due to one or all of three causes. Either an albuminuric retinitis in those cases where the kidney is unduly involved or to a retinal hemorrhage when blood pressure is high or to an atrophy of the optic nerve due to the poisons circulating in the blood.

The recognition of such definite eye-symptoms is now considered of such importance that upon them alone one is justified in interrupting a pregnancy to save the eye-sight of the mother.

When it comes to the treatment of eclampsia the prominent obstetrical authorities are hopelessly divided upon the most important feature of the condition, that is delivery of the child. It has long been observed that the convulsions become less frequent or cease entirely after the delivery of the child and in consequence some obstetrical authorities fore most among whom in this country is Williams, advocate immediate delivery. Others, however, claiming that the shock to the patient incident upon the measures that have to be used to effect immediate delivery, brings on convulsions and injures the patient and secondly because it is unnecessary, as under the influence of the convulsions dilatation of the cervix usually begins and labor may occur spontaneously.

Hirst is an advocate of non-interference under ordinary circumstances.

An absolutely different plan of conduct again is advocated by Stroganoff, the distinguished Russian obstetrician and as he presents only a 7% maternal mortality in 700 cases, the treatment would seem worthy of some consideration. This method aims to prevent the convulsions by reducing the irritability of the nervous system and producing sleep by narcotics, watching over the regular action of the heart, lungs and kidneys, administering oxygen in abundance, keeping the patient under the influence of morphine and chloral and only resorting to delivery if absolutely necessary. One-fourth grain of morphine is first given, followed in one hour by 30 grains of chloral, chloroform being used in the mean time to control the convulsions if necessary, another 1-4 grain of mophine is given the third hour, then chloral the 7th, 13th and 21st hours and so on, the idea being to give sufficient of these narcotics to absolutely control the convulsions, to gain time for elimination, to await spontaneous delivery, or finally to resort to any of the recognized means to that end.

The advocates of immediate interference recommend, that the patient be anthetized at once, the cervix be dilated manually if possible and the child delivered by high forceps or version. In cases of rigid, undilatable cervix, they advise delivery by vaginal Cesarean section as this condition is generally found when eclampsia occurs before the 7th month of pregnancy and the child is hardly viable. Abdominal Cesarean section is only advocated in those cases, complicated by contracted pelvis and there the section is really performed on account of the contracted pelvis and not for the eclampsia.

In the immediate conduct of the condition the convulsions must be controlled and chloroform has generally been used for that purpose heretofore. Now, however, it is learned that the most important pathology in eclampsia is a condition resembling acute yellow atrophy and as experiments upon animals have demonstrated that animals dying from chloroform poisoning present the same pathology in the liver, it is now advised that ether be the anesthetic under all circumstances.

Venesection and veratrum viride are the next two measures upon which the authorities are divided. Venesection is gaining ground more and more especially in the large European maternities as a rational means of treating this condition with our present limited knowledge of its cause. It is claimed that by withdrawing from 15 to 20 ounces of maternal blood saturated with eclamptic toxine and replacing it with an equal quantity of normal saline, introduced either intravenously or endermically, that we have relieved the patient definitely of that amount of toxine.

The advocates of veratrum viride claim to accomplish the same thing by the administration of that drug, but they really only succeed in distributing the poison in the capillaries and depressing the system so that the patient is too weak to have convulsions.

Elimination is advocated under all circumstances, but it must be remembered that the intestinal tract is really the only one available and effective for that purpose. The kidneys are generally more or less involved and it is now claimed that hot baths, hot packs and other such measures, to promote diaphoresis are injurious instead of beneficial as they deprive the blood of fluid and leave the toxins in a more concentrated condition.

In the administration of salines by the mouth, Rochelle salts or sodium sulphate are advocated instead of the more popular epsom salts, for fear that in this condition, absorption of the drug, if given in large doses, may produce magnesium poisoning. In all cases oral administration of purgatives should be supplemented by colonic flushing with normal saline solution, until the water returns clear, otherwise there may be stagnation in the intestines and re-absorption of the toxines set free.

In cases showing marked kidney involvement, plain water should be used per rectum instead of normal saline solution.

Based upon the theory that the accumulation of colostrum in the breasts is the cause of the convulsions, one authority now advocates intra-mammary introduction of air, or oxygen. On the same theory, another European obstetrician has even gone so far as to amputate the breasts, it stands to reason that such extreme measures will not be generally accepted.

The following cases are presented because they practically upset all of our ordinary ideas in regard to the recognition and treatment of this disease.

CASE I.

I was called to see this patient in consultation in a neighboring city on November 14th, last. The patient, a large, heavy primipara, full term had been in labor since midnight with her family physician in attendance. At 4 A. M., she complained of intense headache, then of blindness and immediately went into convulsions, that followed in quick succession. The child presented by the face and there being no progress in the labor, and the patient's condition becoming alarming, with the assistance of a neighboring physician, a forceps delivery with a dead child was effected. I saw the patient at 2 P. M., and found her in deep coma, pulse 150, breathing stertorous, blood pressure 122 m.m. Her condition seemed absolutely hopeless but I sugested venesection as a measure that might give the patient a chance. The patient's arms were fat and the veins small and not affected by constriction of the arm above. Incision of the median basilic in both arms only resulted in the oozing out of 5 or 6 drops of thick tarry blood and then it refused further to run. The patient died an hour later. This case is reported because the writer is an advocate of venesection in this condition and here was a case in which it could not be carried out.

The next two cases present some very unusual features. Both cases were at Norton Infirmary at the same time, they differed radically from each other and presented but few of the premonitory symptoms seen in ordinary cases.

CASE II.

This patient now 25 years of age was first seen by me October 6th, 1911, in a severe attack of eclampsia near term in which an artificial delivery became necessary and the patient was blind for three weeks thereafter.

Impairment of vision in such cases may be due to one of two conditions, an albuminuric retinitis, if the kidneys are primarily at fault or a retinal hemorrhage if the blood pressure is excessive.. In this case it proved to be due to retinal hemorrhage. Vision cleared up in a few weeks and the patient returned to her home.

Six months later, May 15th, 1912, she came to me with the history of having missed her menstrual period and upon diagnosing a pregnancy, she was kept under observation at close intervals during the entire time. In the very beginning her blood pressure was 190 m.m. in spite of free elimination of urine of good specific gravity and free from albumen. The patient was kept upon a restricted diet throughout, but in spite of that the blood pressure increased, with never a sign of albumen in the urine. The patient would not be at full term until January 13th, according to the usual count, but in October, already, the blood pressure rose to 212 m.m. in spite of all precautions and, accordingly, premature delivery at 8 months was advised, as the safest procedure for both mother and child. Failing to get the patient's consent in the first week of December with the blood pressure now 218 m.m., her eyesight began to fail and finally on December 16th, I was called to the house, found the blood pressure 232 m.m., and the patient could not see enough to count my fingers. Consent to deliver having at last been given the patient was removed to the infirmary and a large catheter introduced into the uterus at 4 P. M. Labor pains began at 2 A. M., the next day and at 10 A. M., she was delivered of a six pound living baby. The blood pressure during labor rose to 235, one hour after delivery it was 205, next morning 165, the following day 175, in spite of free elimination and a milk diet. The third day it was 212, the fourth day, 194, and this with absolute loss of vision even as to light or darkness. An abundance of urine of good specific gravity, free from albumen and casts, and containing the proper quantity of urea was excreted. This patient returned to her home after two weeks but is still under observation. At this time, six weeks after delivery, she has clear spots of vision in the left eye but function has not been restored in the right eye as yet. The baby is alive and well, but is fed artificially because the mother is receiving postassium iodide and mercury in large doses in hopes of restoring her eyesight.

Now contrast this with the other case, which was conducted in the infirmary at the same time, the two patients occupying rooms at opposite ends of the same corridor.

CASE III.

Mrs. —, the wife of a physician, 33 years of age, married nine years with one child seven years old, delivered with forceps at that time after a prolonged labor. I first saw this patient a year ago, when she went a few days beyond her normal menstrual period and then when bleeding came on, it continued for one month without interruption. The diagnosis of the condition was at that time in doubt, extra-uterine pregnancy was suspected but could not be diagnosed definitely and as the bleeding stopped suddenly after one month the patient was not seen thereafter. In November, 1912, the patient again consulted me, she was then about five months pregnant, was suffering with large purple blotches on both lower extremities, and upon inquiry it developed that she was undoubtedly an hemophyliac. Upon the injection of 20 c.c. of normal horse serum in the sides of the abdomen, immediate improvement occurred in the condition complained of and nothing further was heard from the patient until the morning of December 16th, when I was hurriedly called and found the patient in convulsions. Dr. Ireland had also been called in the emergency and remained in the case thereafter. The patient was removed to the infirmary and had 22 convulsions during the day. The pressure of the nurse's hands upon the arms of the patient to control her during the convulsions caused large purple blotches and the site of every hypodermic injection showed a blotch as large as a half dollar. The patient had passed urine involuntarily in the ambulance on the way to the infirmary but nevertheless when the bladder was catheterized two hours later, 15 ounces of urine absolutely free from albumin was obtained. The patient's blood pressure after 15 convulsions was only 135 m.m. the next day only 112 m.m., the third day, 94 m.m. She responded readily to purgatives and other eliminants and further convulsions were controlled with rectal and later oral administration of chloral. On the morning of the third day it was noticed that she had lost the use of her left arm and leg, undoubtedly cerebral apoplexy due to an extravasation of blood in the brain during the convulsions. The pupils were small but equal facial muscles not affected and the patient could whistle. Involuntary micturition followed and for the next two days the patient slept constantly, as one in profound coma although no narcotics of any kind had been given. Upon rousing the patient she would answer at once and intelligently. Vaginal examinations were made a number of times during the progress of the case but at no time was there any evidence of dilatation of the cervix, the external os barely admitting the tip of the finger. With the patient only six months pregnant, a rigid os and a hemophyliac, accouchement force was a very questionable expedient. As the patient was, however, getting worse and something had to be done, upon consultation with Dr. Cecil, it was determined to induce labor. Accordingly a large No. 16 rubber catheter was introduced into the uterus, but caused no contractions and after 36 hours it was removed and a medium sized Vorrhees bag was introduced and inflated with sterile normal saline solution. Labor pains began and continued for six hours when the bag apparently was expelled and pains ceased entirely. It was then decided to resort to manual dilatation and delivery as the patient had been in profound coma during all this time. After a preliminary injection of horse serum to aid in the prevention of hemorrhage if possible, under light anesthesia, the cervix was dilated, version performed and a living boy baby delivered weighing 3 1-4 pounds. Hemorrhage was prevented by at once forcing the hand into the uterus and compressing the fundus bimanually until the placenta was delivered, then giving an intra muscular injection of ergot and packing the uterus and vagina firmly with gauze. The gauze packing was removed the next day without undue hemorrhage and another injection of ergot given. The baby died during the night and the mother after 24 hours showed a blood pressure of 88 m.m., and was still in the comatose condition. Next day there was considerable swelling of the right side of the face, and an examination disclosed an abscess at the root of a crowned tooth in the upper jaw, undoubtedly due to the pressure of the mouth gag upon it in the course of the convulsions, the patient's tongue at that time being deep purple in color in spite of these precautions. This patient later on had bleeding from the uterus for several weeks but at the present time is apparently convalescing nicely.

With this review of the literature and presentation of cases it is safe to say that eclampsia still remains one of the unsolved problems in medicine.

DISCUSSION.

W. H. Coleman: A great many theories as to cause of eclampsia have been advanced, but I believe that most authorities agree that there are toxines circulating in the blood which, because of faulty elimination, give rise to the eclampsia. Most of them agree that these toxines are irritating to the blood vessels and cause contraction, especially of the arteries, resulting in anemia of the brain, which is the direct cause of the convulsions. As far as I can gather from the literature in the past few years, anemia of the brain is the only reasonable explanation of the cause of the convulsions that has been advanced. Of course, other things enter into it, such as faulty elimination through the excretory organs, the kidneys, liver, etc. The kidneys are not necessarily diseased. We know that a diseased kidney may functionate normally while, on the other hand, a normal kidney may be functionally disabled.

As to the treatment of puerperal eclampsia, this is not agreed upon. I have conducted some eight hundred deliveries, with ten or twelve cases of eclampsia, and I think every man who undertakes to deliver a baby should have a definite idea of what he will do in certain emergencies, and this is one of them. The name itself means a sudden flashing out of the symptoms. To my mind the proper treatment is immediate and thorough elimination. In those cases where the eclampsia comes on before labor I believe the child should be immediately delivered. Usually, however, it comes on at the time of labor. In the twelve cases I have had, I am glad to say that I have been very successful in controlling the convulsions. Although this is not a sufficient number of cases to mean anything, it makes one feel that his treatment has been along the right line at any rate. The usual treatment for controlling the convulsions is chloroform or morphin. At first I was somewhat afraid of morphin but all the authorities agree upon it now I believe; also chloral and the bromides. The essayist did not insist upon elimination as much as I thought he would. Elimination is that saves the patient. To my mind the best drug we have for controlling the convulsions is Norwood's tincture of veratrum viride. I have seen it fail but once. It must be used in heroic doses—say half a teaspoonful, and I know of one splendid doctor in the West End who gave it in teaspoonful doses without bad results. I would hardly give such a large dose myself, but I think it should be pushed when chloral and the bromides fail, and I believe it is less dangerous than chloral. At the same time elimination should be thorough.

I would like to cite one case, in which, with the first pain of labor, the patient fell to the floor with a convulsion. I saw her within two hours. The baby was immediately delivered but I was unable to stop the convulsions during the next twenty-four hours. By that time her temperature had risen to 105, and the convulsions were very violent. I then gave her 12 drops of croton oil with very pronounced results, and within twelve hours the patient's temperature was normal and she made a complete recovery.

To my mind, the proper treatment is reduction of the spasms by the usual means, preferably veratrum viride, evacuation of the uterus and elimination by the strongest drugs we have.

W. E. Gary: In regard to the etiology and treatment of puerperal eclampsia, I would like to call attention to some work that has been done at the Kentucky Experiment Station at Lexington. They have issued a bulletin on bovine eclampsia and the effect of the secretions of the mammary gland on the induction of labor. In their experiments, they injected guinea pigs with about 10 c.c. of the first milk that came from the cow, with no results. Then colostrum was injected, and the pigs showed only slight disturbance an hour or so after the injection, with some diarrhoea afterwards. Then they injected guinea pigs with colostrum from a cow suffering from eclampsia. They all died within four or five days and post-mortem showed a parenchymatous nephritis, interstitial hemorrhage, parenchymatous hepatitis and like involvement of other organs. One of the pigs happened to be pregnant and aborted within twelve hours. Then they conducted another series of experiments, giving the colostrum from the cow to pregnant guinea pigs, and in all cases they aborted within twelve to twenty-four hours. One pig was given 10 c.c. of normal salt solution without any effect. Five days later it was given 10 c.c. of milk from the herd without any effect. Five days later, 10 c.c. of colostrum from a healthy cow with a calf was followed by abortion in six hours. Therefore, it would seem that the secretions of the mammary gland have something to do with eclampsia of the bovine type.

I have never seen eclampsia in the human being, but I have had occasion to treat two or three cases in cows. Before very much was known about treating this condition, 95 per cent of these animals died. Then a German veterinarian introduced the method of injecting the udder of the cow with potassium permanganate. Later, normal salt solution was substituted, and still later the method of inflating the udder with air and allowing it to remain until the cow gets up and about, was introduced. I have seen cows in such condition that they would not move a foot or bat an eye, and upon using this method they would soon be able to get up and go around. In some cases it is necessary to repeat the inflation of the udder several times.

Therefore, if I had a case of puerperal eclampsia to treat, I would try inflation of the mammary glands to see if it would be of any help, along with the other treatment.

Walker B. Gossett: This is a disease about which we know very little more than we did fifteen years ago, except that we do not lay all the blame on the kidneys as we used to do. Sometimes I think it may be a germ disease, or due to the ptomaine of some germ. The treatment is very simple and may be gotten out of any good text-book—elimination, chloroform, and deliver as quickly as possible.

C. H. Harris: In regard to the essayist's remarks about sweating these patients, the skin is one of the excretory organs and I do not see why it should be called upon to functionate under these circumstances. I have seen a good many cases of eclampsia and I always sweat the patient, give croton oil and flush the uterus, which are the things to rely upon while we are making up our minds.

I want to take issue with anybody who gives teaspoonful doses of Norwood's tincture of veratrum viride. It is an exceedingly dangerous thing to do.

Edward Speidel, (Closing): I stated in the beginning of my paper that I would simply give a review of the literature in an endeavor to bring out a few points in connection with this subject.

In regard to the etiology that is a matter about which there is a great deal of question. The accepted idea seems to be that it is due to a toxin in the blood. However, it has been proven that the blood of eclamptic women injected into animals will not produce eclampsia. As to the effect of the poisonous substance upon the blood, as stated in the paper, it results in the formation of emboli and the destruction of the endothelium of the blood vessels. Consequently, these emboli seep through the tissues, and that is the explanation of the minute hemorrhage that we find in various organs of the body in eclampsia—the lungs, kidneys and brain, and especially in those organs where the blood pressure is greatest. We also see these manifestations at times in the skin and muscles.

In regard to the treatment of eclampsia, I do not believe it is as simple a matter as some of those who have discussed the paper seem to think. We must apply the treatment to suit the individual case.

Another point is this. I think those of us who have seen only ten, fifteen or twenty cases of eclampsia may well profit by the experience of those in charge of large maternity hospitals, where the statistics include five thousand or more cases, and in such institutions they have learned that it is unwise to use chloroform in eclampsia, because it has been shown that chloroform will produce conditions of the liver identical with those always found in eclampsia, and that ether is the proper thing to give. This being true, why should we not accept the results of sound scientific investigation, based on the observation of thousands of cases, and use ether to control the convulsions instead of chloroform?

Venesection is almost universally employed throughout Europe as the only real curative measure in eclampsia, because by withdrawing a pint of blood a definite amount of poison may be eliminated from the circulation. There is no danger in taking a pint of blood from a woman, especially when near full-term pregnancy. Any one who has seen post-partum hemorrhages and has observed how quickly these patients will rally from that condition, will readily appreciate that a pregnant woman may lose a pint of blood with impunity. Williams advocates this measure even where the pulse is not bounding.

In regard to the use of diaphoretics, it seems reasonable to me that where we sweat a woman who cannot swallow and make the water issue out of the skin, we are simply further concentrating poison in the blood, because it has been claimed that what is eliminated from the skin is simply the watery element of the blood, although, of course, we do not know that the toxine is not eliminated also. I have always believed that where the patient cannot swallow, normal saline solution should be introduced into the bowel coincident with the sweating. Where the patient can take plenty of water by the mouth, sweating is the rational treatment.

In regard to elimination by the bowel, recent literature contains a good many reports of dangerous symptoms arising from large doses of magnesium sulphate. Therefore, I think we should take this point into consideration and give Rochelle salts, which are supposed to be innocuous in large quantities, at the same time flushing the bowel from below.

C. H. Harris: Have you ever seen anyone poisoned by the use of magnesium sulphate.

Edward Speidel: I was simply referring to the numerous reports that have appeared in the literature recently, of the poisonous effect of large doses of magnesium sulphate.

I think the question whether or not immediate delivery should be effected must be decided by the condition of the patient. I am in favor of immediate delivery in those cases where the cervix is dilated or dilatable. Where the cervix is firm, I think it is a good plan to use narcotics and institute elimination in an endeavor to put the patient in condition to deliver her, because it seems to me that in all these cases delivery must finally be resorted to.

HAY FEVER.

By DeWitt Henry H. Wolfe, Louisville.

Bostock, in 1819 first recognized hay fever and said it was due to heat.

Elliotson, in 1839 said it was due to certain pollen.

Voltolini, in 1871 said i twas due to some abnormal anatomical condition of the nose.

Beard, in 1876 said it was due to neurotic influences. And results have proven that we in 1913 do not know what hay fever is due to!

Climate, certain pollen and abnormal anatomical conditions of the nose play a part in the etiological factor of hay fever, but to my mind, and I have been a sufferer from hay fever all of my life, the neurotic element is the largest etiological factor in hay fever.

It is named according to the season during which it appears.

Those suffering from it during the spring months call it rose cold or rose fever, and those suffering from it later on in the summer call it hay asthma, autumnal catarrh and hay fever.

There are a few of us who are unfortunate enough to have it in both forms starting in May and suffering more or less continuously until the first hard frost.

Hay fever, to my mind is an hereditary neurotic condition which makes itself felt each season about the same time and disappears with equal regularity.

Neither age nor sex are immune, although we see it more often in the young and middle life than we do in the aged.

Formerly it was rarely ever recognized the first season a patient suffered, but was diagnosed an dtreated as a "cold," but now, however, hay fever is becoming so prevalent that we recognize it almost immediately.

I think the pollen should be almost entirely eliminated as the cause of hay fever. Surely you won't find pollen in the coal gas of a train shed at a railroad station, or in the fumes of coal gas and smoke coming in through the windows of a train while going through a tunnel, or will you find pollen in beer or ale or in fresh tan bark, or in fog or in coffee or in dampness and yet any one of these will bring on an attack of hay fever and asthma with some of us at any season of the year, no matter how high or how low in the thermometer the mercury is. Most of these acting as an irritant to the nasal mucous membrane.

The typical hay fever sufferer will tell you that he does not know what causes his hay fever, but that on a certain day each August his troubles begin. I have a friend living in New York whose hay fever begins while the clock strikes the noon hour on the 21st of August. Yet five minutes before twelve she is as well as can be and five minutes after twelve she is as miserable as only a hay fever sufferer can be. I have often wondered what would happen if some one would move the hands of her clock.

Some very few people are really affected by rag weed or golden rod, or think they are, but the large majority of hay fever subjects can put their heads right into the midst of a bunch of ragweed or golden rod and not be affected. I dare say nearly all of us have seen hay fever patients have a typical attack by ushering them into a room where there will be some natural looking artificial flowers.

There are no pathological conditions, other than a hypersensitiveness of the nasal mucosa and a neurotic constitution, unless, of course, there is some trouble with the inferior turbinate bones or polypi present, which happens only in a very small percentage of the cases.

Some patients have prodromal symptoms, others are perfectly well one minute and prostrated the next through a sudden fit of sneezing. Watering of the eyes with accompanying redness and puffiness of the lids, more or less photophobia, marked coryza, some people using many more than a dozen handkerchiefs in a day, coughing and sneezing with more or less prostration are the principal symptoms.

Some patients are more miserable when we have cool days in summer, others in extreme heat.

Some sneeze very little and say they wish they could sneeze more to relieve the fulness in the head. Others sneeze a great deal and beg you to stop the sneezing because they become so completely exhausted.

I know of no disease where the patients becomes as completely prostrated in so short a time as they do in hay fever.

More or less asthma generally accompanies a paroxysm; some have nocturnal asthma during hay fever season without any other symptoms of hay fever during the night, but have hay fever during the day.

As a rule hay fever subjects have a ravenous appetite during an attack and are greatly relieved for a short time after eating.

Some few cases have a slight rise in temperature, nausea and headache during an attack.

The prognosis is good. I don't think lives have ever been shortened because of hay fever, nor do people die during an attack of hay asthma. In a great many instances people "outgrow" hay fever, and even those who carry it to their graves have no doubt lived just as long as they would, had they not had hay fever.

Of course during hay fever season, a patient may be debilitated and, therefore, be more susceptible to other diseases than during the winter months.

In the treatment of hoy fever, every remedy known to materia medica from the simplest antiseptic spray to "606" has been suggested.

Every doctor has a different remedy and every layman has a different remedy, and yet we poor victims go on having hay fever year after year just the same.

The diagnosis of hay fever is a simple matter. The whole thing rests with the treatment and the person who brings about a real cure for hay fever will be a Godsend, as only those of us who are victims know what a hell on earth the summer season means.

It is well to begin about two months before hay fever season by giving good tonics to build up the patient as much as possible. Where any pathological anatomical conditions exist, they should be corrected by surgical methods. Opiates, cocaine and other habit forming drugs should not be used in the treatment of a condition as chronic as hay fever unless as a last resort and then only by the physician himself.

Where a patient cannot stop sneezing, or where a man must address an audience, as a minister or an actor, then a cocaine spray or opium in some form used by the physician may have to be resorted to.

Adrenalin in different strengths as a spray or swab will help at times. For the profuse coryza, atropine may be used, but the results are not always satisfactory.

A strange thing about hay fever is, what will give wonderful relief to-day may have no effect to-morrow, and vice versa, and a remedy that you are praising this season, is apt, after a few trials to be dropped next season as worthless. I got fair results a few years ago from quinine in small doses, giving altogether about 15 grains in 24 hours, and also a spray of a saturated solution of quinine and water every few hours.

Some advise the use of an antiseptic spray, such as Dobells solution, Seiler's solution, or boric acid solution night and morning, a few weeks before hay fever begins and to be kept up all during that period. It certainly can do no harm, and in some cases may do good, although I have seen no good results following it. The serums and vaccines that have been on the market the past few years, I have not used as I have never heard of any good reports following their administration, from the doctors who have used them, or from patients on whom they have been used. Tobacco in the form of cigarettes, cigars or pipe will help in some attacks and aggravate in others. Cigarettes containing stramonium, belladonna and so forth, all have their place in the treatment of hay fever, as have salves containing menthol, cocaine, etc. The nasal mucous membrane of a great many hay fever patients is so sensitive that the mere application of a salve starts up a violent paroxysm of sneezing. The same may be said of medicated wools, to insert in the nose, and therefore should not be used in those hypersensitive cases. Asafoetida, valerian, camphor, ammonia, menthol and bromides should all be given a trial in the treatment of hay fever. I have seen very few people who have gotten satisfactory results from the preparation known as "pollantine."

The actual cautery applied to the sensitive nasal mucous membrane will give prompt relief in some cases and should be given a trial.

I got remarkable results last summer both in myself and others from a preparation called "————." In a few cases I have gotten most unsatisfactory results from this drug. This preparation is made in Louisville. The manufacturer put this drug on the market first as a nostrum, but now the manufacturer tells me it is an ethical preparation. It consists of a small piece of blotting paper on which is spread fluid extract of lobelia, fluid extract of belladonna, fluid extract of stramonium and tincture of benzoin. By lighting this paper and placing it under a funnel, and inhaling the fumes, I have received the most wonderful and almost instantaneous result in my most aggravated attacks. The reason I go into detail about this mixture is because it has given me such wonderful relief.

But in closing let me say that the only sure relief for hay fever is change of climate. A great many resorts in this country and abroad are recommended, but as in the medicinal treatment of hay fever, the climatic treatment is just as uncertain.

One hay fever victim gets perfect relief at one resort, while his unfortunate brother is thoroughly miserable at the same place. Again he may be entirely relieved at one resort one summer and be thoroughly miserable at the same resort the next summer. Some are more fortunate and find in northern Michigan perfect relief every summer. Others get relief in the White Mountains, the Adirondacks, some at the sea shore, others by taking an ocean voyage, and some, more fortunate, like myself, find complete relief in any change of climate. In this latter class, I must confess that I think the relief is due to a change of scene more than a change of climate.

DISCUSSION.

M. L. Ravitch: To my mind hay fever is due to a chemical toxine, the source of which we do not know, and until we find out where this toxine comes from we will never find an effiective remedy for the disease.

In my experience, thyroid extract, two to five grains, three times a day, has seemed to act very beneficially. I think the good results are due to the anti-toxic properties of thyroid extract. Bramwell, of England, has used it with a good deal of success in hay fever.

Hay fever is a very troublesome affection, and as Dr. Wolfe stated, change of climate will help it where nothing else will do any good.

CLINICAL CASES.

REPORT OF FOUR CASES OF APPENDICITIS ASSOCIATED WITH FOREIGN BODIES—COAL, GRAPE SEED, OXYURIS, BISMUTH.

By Jno. W. Price, Jr., Louisville.

(Original Article appeared in January 15th, issue.)

DISCUSSION.

J. Garland Sherrill: I have been very much interested in Dr. Price's report of foreign bodies found in the appendix. We know, of course, that foreign bodies are sometimes found in the appendix, but they do not occur with any great degree of frequency, and Dr. Price has, therefore, collected quite an interesting and unusual group of cases.

I can call to mind only one case of foreign body in the appendix in my experience. This was a case I saw with Dr. Dugan some ten or twelve years ago in a young woman, who was taken very suddenly with severe pain in the right lower quadrant of the abdomen. It was a very sharp pain and yet the patient had no elevation of temperature whatever. She had some rigidity on that side, however, and the pain persisted. Diagnosis of an acute appendicitis was made and operation was done. When the appendix was brought into view, there was some question as to whether or not it was the real cause of the trouble. However, upon cutting it open, we found imbedded in the mucosa of the tip of the appendix, a triangular piece of steel, very likely a small piece that had been chipped off of one of the rollers in rolling flour, which had been ingested by the patient. The absence of temperature in this case should have led us to suspect the presence of some sharp foreign body in the appendix. In the majority of cases, however, it is not possible to make diagnosis of foreign body in the appendix unless the patient be subjected to X-ray examination.

David C. Morton: I noted with a great deal of pleasure that Dr. Price referred to a case which occurred in Dr. Tyson's service at the University of Pennsylvania. That case occurred while I was an interne there, and when this patient came to post-mortem, he requested me to help him, and we were very much startled to find a two and a half inch nail in the appendix. That appendix with the nail in it decorated the office of the chief for a long time.

Carl Weidner: We have been taught, of late years, that foreign bodies in the appendix are comparatively rare, and that appendicitis is practically always due to an infectious process of some sort. Since reading an article by Metchnikoff, in which he laid great stress upon the pinworm as a possible cause of appendicitis—not as a direct cause, but as a mechanical irritant opening the way for an infection—I have heard very little about it in the discussions in our medical societies. Metchnikoff considers it very important, in every case of appendicitis to examine the stools for the parasite, and advocates treatment for the worm in every case before operation is resorted to. Personally, I have never made an examination for the parasite in appendicitis and I would like to know what has been the experience of others along this line.

Lee Kahn: I have seen foreign bodies in four appendices. In one a fragment of bone, in another which Dr. Rubel recalls a straw. In the third case retraction of the amputated appendix exposed to view the segments of a tape-worm; and Dr. Tuley probably remembers the fourth which contained pin-worms.

What influence foreign bodies have in causing appendicitis is a mooted question. The view generally accepted is that in its strenuous muscular efforts to get rid of the foreign body the appendix is abrased at the seat of impaction and this abrasion of mucous membrane becomes the atrium of infection. The popular idea that grape seeds are largely responsible is discredited by the collected cases operated on in the hospitals of Chicago in 13 or 14 years, showing that appendicitis was even less frequent during the grape eating months. In my own case I believe the pin-worms were merely a coincidental finding and that they had nothing to do with the attack. Their presence in the appendix has been demonstrated so often that it is looked upon as their natural habitat; in fact they have been found here when they could not be found in other parts of the intestinal tract.

As to Metchnikoff's suggestion mentioned by Dr. Weidner, I don't think many surgeons would accept it and willingly assume the responsibility for delaying surgical interference in appendicitis, especially in children.

J. Hunter Peak: I have seen and operated upon quite a number of cases of appendicitis, but I have seen only two cases of foreign body in the appendix. One of these I saw about four years ago in a young man who had been suddenly seized with severe pain in the abdomen, and suffered several hours before he sent for a physician, and I was called in consultation. As has been the experience of others in cases reported here to-night, the intense pain in this case did not seem to be in keeping with the pulse and temperature. A friend of this patient who was present, asked me what the trouble was and I told him it was appendicitis. He asked me what was the cause of it and I replied that I did not know, but that it was nearly always due to an infection. He remarked that, in his opinion, it was nearly always due to foreign bodies. The patient was taken to the infirmary and operated upon, and we found an impaction of grape-seed in the appendix—I do not remember how many there were. Two of them had almost worked their way through the appendix. Aside from a little irritation at these two points and the fact that the appendix felt somewhat hard and distended, there was no other trouble—no adhesions nor inflammatory conditions. The friend was present at the operation and had the laugh on me.

Another case was in a young man whom I operated upon recently, with symptoms similar to those in the first case, intense pain, very little temperature, etc. The pulse was also normal. When the appendix was opened it was found to contain a date seed, a half or three quarters of an inch long, just about filling up the appendix at that point. There was no marked inflammatory condition about the appendix, and I might not have removed it had I not picked it up and felt the foreign body in it. He made an uninterrupted recovery.

Jno. W. Price, (Closing): I appreciate the discussion and have enjoyed hearing the other cases reported.

As to Dr. Kahn's statement that the thread worm is not capable of causing any lesion in the appendix, I beg to differ with him. In the specimen which we had, some of the worms were partly buried in the mucosa, and in the recent article by Cecil and Buckley, which I referred to, is a picture of a microscopic section showing one thread-worm entirely buried beneath the mucosa and sections of others projecting into the mucosa. Furthermore, microscopical ulceration was found in each of their twentythree cases.

THREE CASES OF IMPERFORATE ANUS.

By Guy P. Grigsby, Louisville.

As to the frequency of this condition quoting from Tuttle, Moreau, has only seen four cases in the service of the Paris Maternity Hospital, during a period of forty years. Couty, of Havre, has only had three cases in 3,500 confinements. Collins, in the Dublin Maternity Hospital one case in 16,000 children. Starr estimates that the condition occurs about once in every 10,000 births. From this you will see that while the proportion of malformation of the anus and rectum in the total number of children born is very small, the actual number is far from inconsiderable. If this report will make you more careful in your examination of the children that you deliver, thereby saving you the embarassment of overlooking this condition, not to mention the delay of operative relief, that may prove a menace to the child's life, it will have served its purpose. This subject is at first of great importance to the general practitioner who must of necessity see the case early, but since it is by surgical means only that a correction of the condition can be hoped for, it essentially becomes of equal importance to the surgeon.

The rectum and the anus are developed from entirely two different layers of the blastoderm. The source of the blood supply to the two organs is different and it is returned to the general circulation by different routes. The arrest in the development of one, therefore, is not necessarily associated with that in the other. In the majority of cases where there is a malformation or displacement of the rectum, the anus is normal, or vice versa. Briefly speaking, in the foetus, the rectal end of the tube is developed in connection with the other abdominal viscera. It gradually separates itself and descends to meet the ascending or anal end, which at first is represented by a slight depression in the perineum. This depression gradually extends to meet the descending rectum, unites with it, and the membranous portion separating them is afterwards absorbed. This process of development may be arrested at any stage at either end, and result in the several malformations: 1. Cases in which no normal anus exists, (imperforate anus). 2. Cases in which there is a normal anus, but the gut is obstructed higher up, or, is undeveloped. *These are again divided into,* (a) Partial atresia by adhesions or membrane; (b) Complete atresia by membrane, (1st Case); (c) Complete atresia with fistulous opening into bladder, vagina, urethra, or somewhere on the body surface, (2nd Case); (d) Complete atresia with rectum also deficient. (3rd Case); (e) Anus natural, rectum deficient for a short distance, for a great length, or entirely absent.

The diagnosis of those cases of complete occlusion will be found upon a careful examination. Where such observation has not been made, or if so, and the condition not found, it will be soon noticed that there is no passage of meconium. The child will show symptoms characteristic of fecal stasis. This will call for another examination and the condition will be found. The operative relief of these cases is discussed at great length by several text books, as to which method is the safer procedure that of colotomy or proctoplasty. To my mind this must be determined by the individual case. If the child is seen early, and is in good operative condition, the perineal route is to be preferred. Of course, I refer only to those cases of complete obstruction. If the bowel is not reached by this method you can resort to the colotomy. In exhausted children with tympanites and symptoms of intestinal sepsis, where there is no evidence that the rectal pouch can be easily reached, the colotomy should be resorted to as a primary measure. Tuttle gives us the mortality of the two operations 43.7% for the colotomy, and 39.3% for the proctoplasty. This is the lowest mortality given by any of the authorities upon this subject, that I consulted.

CASE I.

Anus normal but complete atresia by a membrane. This case was delivered by Dr. H. E. McKay in July, 1906. Male child, weight 11 pounds, normal delivery, no family history of any malformation. The first examination failed to reveal the condition. A more careful examination showed an apparently normal anus that was completely obstructed about one-half inch within the anal orifice, by a fairly thick membrane. I saw the child with Dr. McKay the same day. With the tip of your finger against this membrane you could get an impulse that was so distinct that it left no doubt in my mind that the bowel was directly behind this intervening membrane. Accordingly the membrane was opened with a crucial incision allowing the escape of two or three ounces of meconium. The opening was carefully dilated with a blunt hemostat. With the exception of the membrane, the anus and the canal, seemed to be normal. No anesthetic was used and the manipulation seemed to give the baby very little pain. For a month Dr. McKay dilated the anus twice each week. After this the mother with instructions from him carried out this treatment. The child had no further trouble, and, at two years of age the last time seen, was a normal child in every respect.

CASE II.

Imperforate anus with a deficient rectal pouch, and a fistulous opening into the bladder or urethra. I saw this case while a student with Drs. McKay and E. M. King, who have kindly accorded me the privilege to report it. This baby was delivered by Dr. King in September, 1905. Normal delivery, second child, three other children normal, no family history of any malformation, male child, weight 8 pounds. The malformation of the anus was noticed at the time of delivery. The staining of the urine with the fecal matter soon established the fact that there was opening between the bowel and some portion of the urinary tract. The baby was passing so much of the bowel contents by this means that Dr. King did not think any operative measures were justifiable for the time being at least. On the third day the urine became clear, some distention of the abdomen, and other symptoms of intestinal stasis, the opening between the bowel and the urinary tract had evidently closed. Dr. McKay and myself saw the baby that day to attempt to establish an opening into the bowel. On examining the perineum there was no sign of an anus. No impulse could be detected, that would indicate the close proximity of the bowel. The baby was anesthetized. A point was selected that we judged would be the site of normal outlet. A careful and prolonged dissection for about one and a half inches upward and backward failed to reach any bowel. We decided that further search would end fatally with small chance of finding the gut. We had previously suggested a colotomy in event of failure to reach the bowel from below. After we had fully explained to the parents the nature and the results of the operation they declined to allow us to do it. Stoically saying in their opinion that it was better for the child to die. The baby died on the eighth day and we were unable to get an autopsy, hence we were unable to ascertain the exact malformation.

CASE III.

Imperforate anus with a deficient rectal pouch. This case was delivered by Dr. McKay in September, 1912. No family history of any malformation, two older children normal. Present child, male, weight 8 pounds. Delivery easy and normal. Hasty examination at time of delivery failed to note the condition of malformation of the anus. However, a slight puckering of the skin in the anal region was the cause of the condition being overlooked. At the next call the mother reported that baby's bowels had not moved. Another examination revealed the imperforate anus. I saw the child with Dr. McKay the following night. Examination of the perineum showed a slight puckering of the skin in the anal region. The raphe, however, was unbroken. I could not obtain any impulse. Child restless and abdomen slightly distended. No fistula could be found. Urine was clear. As the baby was in good condition we decided to try and find the bowel through the perineum. A few drops of quinine and urea hydrochloride were injected beneath the skin. From the point where the skin was puckered we made an incision backward for one and a half inches. After getting through the skin we detected a little muscular tissue that we took to be the sphincters and this was carefully separated. The dissection was easily and quickly continued upward for a little over an inch, when I encountered the rectal pouch distended with meconium. The gut was freed withdifficulty, but I was finally able to bring it down to the margins of skin incisions, without opening it. It was anchored there to the walls of the canal that we had made, by three sutures of chromic gut. The muscular tissue was brought around the bowel and held with a suture of catgut. The skin incision was then partially closed leaving a sufficient space for the anal opening. The bowel was opened allowing the escape of a few ounces of meconium. It was then carefully dilated with a blunt hemostat until you could insert the tip of the little finger. The cut edges were then approximated to the skin. The baby evidently suffered little pain for as soon as the bowels were emptied he dropped off to sleep. Dr. McKay saw the baby every few days and kept the opening dilated. There was no infection and the wound healed readily. For a month the diapers were stained almost continuously, but this has gradually lessened until at the present time the child seems to have control of his bowels.

DISCUSSION.

J. T. Dunn: I have been practicing medicine for 23 years and I have seen only one case of imperforate anus in that length of time. This was in a baby that I delivered fifteen or sixteen years ago, a boy. I remember that upon looking up the literature at that time, I found that most of these cases occurred in boys. Why this is I do not know. In this case, the mother called my attention to the fact that the baby went for two or three days without a movement of the bowels. Upon examination I found an anal opening, but upon attempting to enter it with a probe I found that it was patulous for not more than an inch. I endeavored to detect an impulse on pressure on the abdomen and when the child would cough or cry, but there was none. The state of affairs was laid before the parents and they consented to operation. As in Dr. Grigsby's case, however, it was understood that we should not do a colostomy. An incision was made in the anal orifice and after dissecting upwards and backwards as far as I safely could, in the direction of the rectum, and failing to find it, I did a laparotomy, opening the abdomen above the symphysis pubis. Then I located the descending colon and sigmoid and followed it down and found the rectum, which lacked two or three inches of reaching down far enough to connect with the opening, with just a lot of fibrous material from there down. I then dissected loose the upper portion of the rectum and made an attempt to deliver it through the anal orifice, and was unfortunate in breaking the lower end of the rectum and spurting meconium into the cavity. After cleansing the parts as well as I could, the rectum was brought down and stitched around the anal orifice. The child lived only two days.

In these cases a serious question comes up which the family must decide for you. It is all very well for the doctor to say that the child's life can be saved by making an opening in the side, but when the father and mother stop to think of what it means in after life, just as in Dr. Grigsby's case, they will say, "Don't do that; we would rather have the child die."

There are cases on record, I believe, in which these babies have lived for three, four or five weeks. I do not see how it is possible. There are also cases on record where a fistulous opening formed into the vagina and the patient lived to a good old age without anything being done.

B. C. Frazier: About eighteen years ago I gave an anesthetic for Dr. Vance to operate on a case similar to the one reported here to-night. This child, which was six weeks old, had been brought here from out in the State. It had an opening into the bladder and meconium had been passing through the bladder. I remember that Dr. Vance had very little trouble in establishing the normal rectum. It was kept here possibly a week or two, and the last I heard of the case the child was two or three years old and had had no further trouble.

John D. Trawick: Recognizing that the prognosis in these cases is doubtful and largely dependent upon the age of the child and the length of the fibrous tract which so frequently exists, anesthesia plays a very important part. I had an opportunity, not long ago, to watch with a great deal of interest, the results of spinal anesthesia in some of these cases. I must say that I was not impressed to the extent of recommending spinal anesthesia for all these little patients, but in those cases where the distance from the dimple representing the site of the anus, up to the pouch of the rectum was short, the results of spinal anesthesia seemed to justify the use of that method. However, where the dissection necessary is quite extensive, and especially, as in Dr. Dunn's case, where it is necessary to open the abdomen in order to bring the rectum down for union, the prognosis was not materially changed by the use of spinal anesthesia. It did, however, appear to influence the outcome of cases where dissection was not extensive.

G. S. Hanes: There are three varieties of developmental defects of the large intestine with fecal opening at the umbilicus. All such cases are hopeless. These children seldom live but a short time and are not considered in the domain of surgical treatment.

In the second variety there is non-development of the post-allontiac gut or absence of rectal formation, the bowel usually terminating on a level with the peritoneal reflexion. In such cases there may be no outlet or there may be an opening into the bladder, posterior urethra or vagina. This variety of malformation is very difficult to deal with.

In the third type of malformation the rectum is developed and occupies its normal position but there is an arrest or irregular development of the proctodoeum. I heard only the closing remarks of Dr. Grigsby's report and suppose his cases come under this head. This is the variety of developmental defects of the large bowel that most frequently come under our observation and, of course, can be treated with much more favorable results. In these cases there may be no outlet or there may be an opening into the vagina just within its orifice, in the vulva, anterior urethra, perineum or in the scrotum. Two years ago I operated on a child eighteen months old with an outlet into the vagina just inside the orifice and two weeks ago I saw one with Dr. Tuley where the outlet was in the perineum near the vagina.

If there is total obstruction and it can not be reasonably well determined that the rectum occupies its normal position it is, in my judgment, safer to do a colostomy. After the emergency phase has been eliminated and the child is in a good condition to tolerate surgery then the rectum can be sought for and brought down, if possible. I mention this as a warning to desist from searching any great length of time for a rectum that really does not exist. A new born babe tolerates surgery very poorly. They are especially poor surgical subjects if total obstruction has existed for some time.

Dr. Grigsby is to be congratulated on his excellent results in the cases he has reported.

E. S. Allen: Several years ago I saw a case of imperforate anus in a male child which, six days after delivery, was passing meconium through the bladder. I saw this case in the country and advised bringing it to the city. The parents, however, were very poor people and could not afford it, so I operated on it in the country. This was a case in which the rectum was not fixed, and an anal dimple was present. I made an incision in the perineum and it was necessary to dissect up for more than an inch before I could find the gut. Upon pulling it down, which was accomplished with some difficulty, I had no trouble in introducing my finger, and found it perfectly empty, having emptied into the bladder, and I could easily introduce my finger through the opening in the gut into the bladder. I pulled the gut down and sutured it, and noticed that it pulled the bladder down considerably, and I believe now that this was a case in which it would probably have been better to have done a colostomy. The child lived about six weeks and died in convulsions. It continued to pass feces through the bladder and urethra, and probably died as the result of a local infection. For a month or so it appeared that the child would get well. It gained in weight and passed the great part of the feces through the rectum, but some still coninued to pass through the bladder, and after about five weeks it began to have convulsions, emaciated and died.

Guy P. Grigsby, (Closing): As was brought out in the paper, reference to the text-books will show that it is a greatly mooted question as to which is the better procedure, colostomy or proctoplasty. In this case, where there was an impulse through the perineum to indicate the close proximity of the bowel, it seemed foolish to do a colostomy when by easy dissection the bowel could be brought down and the trouble permanently cured. Although in the last case reported we were unable to detect anything to indicate the close proximity of the bowel, still by the means employed we were able to save the child's life, and I have every reason to believe that he will live his allotted time. He is an unusually strong, healthy child now. In that case if we had been guided by the presumably safe and sane procedure, we would have done a colostomy. From the benefit that this child has received it would seem that it was a good thing we choose the unwise course in this instance.

I believe the bad results in these cases are, as a rule, due to the manner of bringing the bowel down. As a rule it is greatly distended with meconium, and difficulty is experienced in bringing it down all the way to the skin margin, and while it is true that meconium is sterile, it soon becomes infected with colon bacilli and other bacteria, and a cellulitis rapidly develops from infiltration of this fecal matter, which bores through the skin and muscles of the perineum. We must get the bowel down to the skin opening, and suture it, and in that way prevent any infiltration of fecal matter through the skin and muscles. That is my opinion and it has certainly been borne out in this particular case.

I wish to thank the members for their discussion.

RADIOGRAPHIC PLATES SHOWING MALPOSITION OF STOMACH AND LARGE BOWEL.

By D. Y. Keith, Louisville.

Before presenting a few plates I wish to refresh your memory of the normal position of the average stomach as shown radiographically by some of the most earnest workers in Roentgenology. We all know how inaccurate it is to locate the stomach by palpation or percussion, even after inflation, by the best diagnosticians on account of the overlapping of the viscera. More especially is this true of the stomach and transverse colon when either or both are distended with gas.

The position of the average stomach, as shown by Pfahler, who made plates of a number of persons who gave no digestive symptoms, is that it lies almost wholly to the left of the median line, the greater curvature being about one and one half inches above the umbilicus. The upper two-thirds being nearly perpendicular, the remaining portion horizontal. The most essential point to consider in the average stomach is that the reservoir or body of a stomach is not below the outlet of pylorus.

When we come to consider the colon it must be from two fixed points, the hepatic and splenic flexures; the splenic end being from one to two inches higher than the hepatic angle. A gradual curve connecting these two points with the convexity downward represents the transverse colon which crosses the umbilicus, being from one-half to one and one-half below the greater curvature of the stomach. We must always keep in mind that the transverse colon is a very mobile viscera and may occupy a position above the umbilicus or it may prolapse with several inches resting in the pelvis. It is my opinion that the average position of the stomach and entire big gut is more imperfectly understood in a general way than any other important anatomical subject

Just to-day I was handed a copy of one of our leading medical journals in which an article appeared on the large bowel. The author's illustration showed a loop of the sigmoid as low as the inferior extremity of the rectum with adhesions existing between the loop of the sigmoid and rectum down to the internal anal orifice.

CASE I.

Mrs. M. A., age 35 years, family history negative, married 16 years and has two children. Patient is of slender type with pendulous abdomen, giving her the appearance of a phthisical chest which is compensatory. Has attacks of intense headache, anorexia, foul breath, coated tongue, malaise constipation, occasionally vomits, general depression and wishes she was dead, gets extremely narvous and has to take some hypnotic to get any rest, all of which disappear when the stomach is washed out. These attacks occur from two weeks to two months apart. This plate shows 40% of the stomach in the pelvis with the lower border of stomach much below the level of the pyloric outlet. In this case the stomach, which fails to empty itself completely, acts as a reservoir where the undigested food undergoes fermentation, accounting for her varied symptoms of toxemia. She has been getting relief, when her symptoms became unbearable, by having her stomach washed well on two or three successive days.

CASE II.

This is the plate referred to by Dr. Price in a report of cases a few weeks ago with foreign bodies in the appendix. This shows bismuth in the appendix following an enema of buttermilk and bismuth, the plate being made of the stomach four days later. This radiograph shows the position of ptosis of the large bowel as he described to you. It was taken twenty-seven hours after the bismuth meal and presents the position of the bowel usually found when bound together by "Jackson's Veil or Membrane." In this case the first arm of the transverse colon is found down close to the internal surface of the cecum and ascending colon. The bismuth in the appendix, showing in two distinct spots, is caused by a band or adhesion near the middle of the appendix. This band was found at operation and the appendix contained bismuth in both the proximal and distal ends.

CASE III.

Mr. S. A. L., age 41 years, family history negative, had attacks of vomiting as early as seven years of age, has always had some trouble with the gastro-intestinal tract, such as nausea, vomiting occasionally, accumulation of gas, constipation, never felt satisfied after going to stool, always felt as if something was retained which he was unable to pass. Patient is thin, hollow chested and has always been under weight and undersized.

These radiographs show the position of the abdominal viscera in a general splanchnoptosis. The stomach is seen to be about normal in size and to the left of the median line, but you see the lesser curvature is an inch or more below the umbilicus, the stomach being entirely in the pelvic cavity. The transverse colon is seen to cross the median line about the level of the greater curvature of the stomach which gives it a position as low as the crest of the pubic bones.

DISCUSSION.

W. H. Wathen: I do not know that I can add anything to what the doctor has said. Much of my work has been in the abdominal cavity and I have been very much interested in the normal and pathological relations of the abdominal and pelvic viscera. I have long since realized that the old anatomical drawings of these organs were schematic and seldom correct. How frequently do we pull the omentum and even the transverse colon in the vagina in vaginal hysterectomies, showing how very much they are sometimes elongated.

We cannot intelligently study the relationship that exists between the abdominal viscera except by two means. One is to open the abdomen and ascertain the relationship by direct inspection. The other, and simpler method, is by means of the X-ray, which has enabled us to learn so much more about the normal and abdominal relationship and motility of the abdominal viscera than we knew before, that it has become invaluable to the physician as well as the surgeon. We know pretty well the degree of motility of the gastro-intestinal tract. We know how long the normal stomach will require to rid itself of a meal, the period being governed by the character of the meal and by the normal conditions of digestion and motility. It has also enabled us to study peristalsis, and showed us that our old idea of peristalsis was all wrong. These things are of great value to the physician as well as to the surgeon. We know that a stomach filled with carbohydrates, with normal drainage, will empty itself in about three hours, and with a heavier proteid food in four or five hours; and when retained longer, it is an evidence of either imperfect stomach motility or of obstruction.

The question arises, just how much benefit are we going to derive from operative treatment of gastric or intestinal stasis?

Where we have a general ptosis of the stomach and transverse colon, with a loosening and falling of the hepatic and splenic flexures, these patients nearly always have neurasthenia and it is doubtful whether any surgical operation will do any good—note even the radical operation of Lane, taking out the entire colon and draining the ilium into the rectum, or leaving the large bowel and doing an ileo-colostomy. Many brilliant results from such operations have been recorded, but no one can say what will be the future outcome of these cases. Now, where the colon is fixed at the hepatic or splenic flexure (and in most cases it will be the latter, because it is normally more firmly fixed by the ileo-colic and spleno-colic ligaments), even though there be considerable middle line ptosis of the transverse colon and stomach, good results may be obtained by shortening, by plication, the gastro-hepatic and gastro-colic ligaments, and then bringing up the great omentum and stitching it, just below its attachment to the bowel, entirely across the abdominal cavity, about two inches above the umbilicus, thus making a support for the stomach. However, in a good many cases of neurasthenia, with ptosis of all of these organs, there is nothing to protect the stomach. Coffey, of Portland, and others have done excellent work along this line, but fixation of the stomach itself by hepatopexy or gastropexy, to the abdominal wall, is very uncertain in its results, and I doubt whether we will ever achieve very much by surgical means in general ptosis of the stomach and transverse colon including the hepatic and splenic flexures. Such cases, of course, have intestinal stasis and auto-intoxication, and suffer from nervousness, headache, etc.

G. S. Hanes: The plates shown by Dr. Keith suggest very forcibly the wide mobile range of the abdominal viscera and they clearly indicate the troubles that may result therefrom. As he has stated, this is a subject about which we have hitherto gathered but little definite information. Not long since I read an article in which there was a description of a new instrument by the use of which the author proposed to examine the rectum, sigmoid and the greater portion of the descending colon. With all due respect to this author's sincerity and information upon the subject I must say that his conception of the anatomical arrangement of the lower bowel and the possibilities for examination of the same with a colonscope are, to say the least of them, susceptible to the needs of radical revision. It is necessary for one to look into the abdomen of a few cadavers only to become thoroughly convinced that no rigid or flexible instrument can be passed though a normal sigmoid into the descending colon.

I also saw the illustration referred to by Dr. Keith. The author attempts to show that certain cases of epilepsy can be cured by relieving the angle that often exists at the junction of the sigmoid with the upper extremity of the rectum. In this illustration he shows the sigmoid dropping down almost on a level with the patient's anus. It is lamentable that so much suffering is imposed upon patients as the result of examinations and treatments of the lower bowel,—the reason for which being the want of a better understanding of the anatomical relations of the parts.

We have observed that where we find very acute angles both on the hepatic and splenic sides and the transverse colon occupies a very low position in the abdomen there is constipation as a rule. In some patients the stasis is pronounced, while in others it exists in a mild degree. These patients, almost without exception, state that they do not pass mucus. Just why this is true I am not able to determine.

One of these patients who left the infirmary last week gave a history of having suffered from constipation since early childhood, and for the past year it was with the greatest difficulty that her bowels acted at all. In giving the history of her case she stated that she did not pass mucus but that her stools were composed of hard fecal masses. She was given an enema of normal saline and when the water returned, with some fecal matter, a large quantity of mucus was also passed. When the bowel had been thoroughly cleansed the patient improved very rapidly from the symptoms due to stasis.

In the case where the stomach was prolopsed into the pelvis the patient was a victim of the old time "sick headache." If she had her stomach thoroughly cleansed by lavage she got relief in a short time; on the contrary there was no improvement till the alimentary tract was cleansed. I am confident that the nausea and severe headaches this patient has are due to the condition and position of her stomach together with an intestinal stasis.

We all know that Dr. Lane has caused a great deal of comment and criticism on account of the radical measures he has employed in relieving intestinal stasis. In his earlier studies of the subject he held that the stasis in the large bowel was responsible for the evil symptoms and, therefore, advocated complete extirpation of that portion of the intestinal tract. Later, he contends that the harmful results from intestinal stasis comes from the small bowel. Any obstruction along the course of the colon seems to impede the natural onward flow of the contents in the small bowel so he now advocates short-circuiting and putting the colon out of commission. These questions are comparatively new and have by no means been settled.

Not long since I heard Mr. Lane say that he did the short-circuiting operation on a gentleman, who was profoundly poisoned on account of intestinal stasis, and in twenty-four hours the patient declared he was well.

As I have already said, just what importance we are to attach to excessively mobile abdominal organs, angulations and adhesions of the large bowel we have yet to learn. It is evident already that a great deal that was formerly taught will soon be relegated to the rubbish heap of obselete teachings, opinions hypothesis, etc.

D. Y. Keith, (Closing): In answer to Dr. Trawick's question I would say that no doubt in some instances there is a curvature preceding ptosis but on the other hand in many cases the ptosis is primary.

I will call attention to the fact that the plate showing a distinct rectal stricture was made with the patient in an exaggerated Trendelenburg position, the object of which was to allow the sigmoid to gravitate out of the pelvis into the abdominal cavity and thus prevent this part of the bowel from interfering with the stricture, which it would have done if the patient had been in the erect or horizontal posture. Before this patient came to us he had been radiographed a number of times and was advised that no pathology was present.

REPORT OF SURGICAL CASES.

By E. S. Allen, Louisville.

CASE I.—GANGRENOUS EXTRA-UTERINE PREGNANCY WITH TWISTED PEDICLE.

The diagnosis of intra-abdominal lesions is not always easy. It is frequently the case, after every means has been exhausted in an effort to interpret some hidden lesion, that the knife reveals an entirely different picture from the one imagined in the mind of the surgeon.

Though the surgeon has gone carefully into the history of the symptomatology, has weighed well the clinical findings, has called on the laboratory for its link in the chain of evidence, he finds at the operating table, to use the common expression, that he has fallen down.

There were times when I would have liked to tell, in a secret, critical kind of way, that this or that surgeon had operated for a certain condition and had made a mistake in his diagnosis; I would rather now tell of him who has made a correct diagnosis and leave unsaid his mistakes.

Similar pathological lesions vary so in their symptomatology and varied lesions frequently manifest themselves with so similar a symptomatology, that, though the pathology is the same, each case becomes more or less a personal equation. I have seen the symptoms of an inflamed appendix point to almost every organ except the appendix, and vice versa; a lesion other than the appendix from its symptomatology interpreted as appendicitis.

Believing that I have a sympathetic audience I do not hesitate to report some of my mistakes in diagnosis.

Mrs. V., age 30, married, mother of one child eight months old, still at the breast. Family history good, excep tthat her mother was operated on by me two year sago for a large ovarian cyst. Mrs. V., has been menstruating since the baby was five months old; last menstrual period very scant flow lasting one day.

Friday, at 6 a .m., she was seized with an acute pain in the right iliac fossa, accompanied by vomiting. There was no history of indiscretion in diet. Her family physician saw her at 7, and administered a hypodermic, which gave some relief. He was called again in the afternoon and had to repeat the hypodermic. A physical examination by him revealed a rigid right abdomen and negative pelvic findings. She was due to menstruate in a few days. An enema was given and cold packs applied over region of pain. She had a fairly comfortable night; temperature 101; pulse 120.

The following morning, Saturday, consultation was advised and she was brought to the city, arriving here Saturday noon. She was given 1-3 of a grain of morphine at 10 o'clock. When I saw her at 1 p. m., she was well narcotized. Her pulse was 80; temperature 99; abdomen soft and pliable; patient very comfortable and said that she felt well enough to go back home. I first thought of keeping the case under observation, for I was not certain of the pathology. I could see that she was well under the influence of morphine and recalling that she had required several hypodermics to obtain relief, I felt sure that something more was wrong than I could get evidence of at this time; and, too, I had recently seen a case of appendicitis who was feeling so good from a hypodermic that I advised observing the case until morning. I saw this case the following afternoon and operated as an emergency finding a ruptured appendix, intestinal obstruction with general paresis of the bowel. Almost the entire ileum was in the pelvis agglutinated and constricted by lymph.

To the surprise of the nurse in attendance I ordered her prepared at once for an operation.

An incision was made to remove the appendix. Upon introducing my index finger I found the appendix engorged and adherent below. The incision was enlarged and a mass, black in appearance, was seen in the tubo-ovarian region. As the appendix was perceptibly involved, it was removed and the cecum cofferdammed out of the field. This mass looked gangrenous and was twisted on its pedicle which was the broad ligament.

CASE II.—STRANGULATED OVARIAN CYST FROM TWISTED PEDICLE.

Mrs. Z., age 35, married, mother of one child, which died in infancy. Family and personal history good. I saw her in consultation Sunday at noon. On the previous Friday, while lifting one corner of a wardrobe in an attempt to replace a roller, was seized, as she states, with an acute pain in the right abdomen. She also vomited soon after the onset of the pain, and almost constantly until Sunday, when I saw her. She was suffering a good deal when I saw her. The family physician had used cold applications, enemas, and the like, to obtain relief. Believing that he was dealing with possibly an inflamed appendix, had withheld morphine and purgatives. I first examined her abdomen which looked enormously distended. I suspected pregnancy, but the doctor who had the case in charge was too thorough a man, I knew, to overlook such a condition. A vaginal examination was negative. The question of a distended bladder was eliminated. Percussion over the abdomen revealed a dull mass extending from the epigastrium to the symphysis and laterally to each hypochondrial line, with tympany in the epigastrium and external to the hypochrondral line. A distinct wave could be felt transmitted on palpation. A diagnosis of ovarian cyst with twisted pedicle was made, and confirmed at the operation. I might have patted myself on the back but for the consciousness that it was easy and, too, I had just a few days previous been mistaken in my diagnosis of a somewhat similar case. This cyst contained a gallon and a half of fluid.

CASE III.—LARGE GANGRENOUS SUBMUCOUS FIBROID FROM CERVICAL CONSTRICTION.

Miss B., single, age 36, family history negative. Two years ago I operated on this patient for a submucous fibroid presenting in the vagina. The tumor was about the size of a fetal head taking its origin about two inches in the cervical canal. The right lower vaginal angle was incised for more operating space, the cervix incised and the tumor cut away with scissors; the cervix repaired and vagina packed; packing in the uterine canal. Patient made an uneventful recovery, and I had lost track of her. She left the city. She consulted me again just before Xmas, stating that she had another tumor. Her abdomen was distended to the resemblance af a seven months pregnancy. A well developed symmetrical mass could be made out. Uterine souffle was distinct. No fetal heart sounds were audible. Vaginal examination showed a small normal looking cervix. Though she admitted an opportunity for pregnancy said that she had known of this mass for more than a year, growing rapidly in the last few months. She had a leucocytosis of 9000.

I observed the case for several days and concluded that I was dealing with a submucous fibroid, and decided to operate. The abdomen was opened and to me there apeared every evidence of pregnancy. I thought I detected the typical odor that accompanies a pregnancy when the abdomen is opened. The doctors in the operating room agreed with me that I was dealing with a pregnancy. The operating room sister whose opinion I have great respect for, expressed herself as believing the uterus pregnant. The wound was closed. In 24 hours following the exploration severe uterine pains developed and were so severe that relief had to be given. An examination per vagina was made and the os uteri was dilated about the size of a quarter of a dollar. The following day the dilatation was almost the size of a dollar, and a mass could be felt presenting which, to me and to her family physician, who is a man of an extensive obstetrical practice, was typical of a fetal head. We decided that a miscarriage was inevitable and that all we could do would be to wait. We waited two more days. The uterine pains were about as one would expect in a premature labor. I had to a great extent turned the case over the her physician but would see her once a day with him. When seeing that, as he thought, an abortion was inevitable, he tried to assist nature by manual dilatation. Upon introducing the fingers into the cervix and not being able to make out any topography that he could recognize, he asked me to examine. I could only determine a round mass of about the consistency of a fetal head, but could not recognize any familiar anatomical land marks. A speculum was used and we then realized that if we were dealing with a pregnancy that a fibroid was obstructing. This was in the evening about 8 o'clock. She was ordered prepared for operation at 8 a. m. I was called up by the nurse at 7 a. m. and informed that the patient had just had a chill and that her temperature was 104. I came to the hospital immediately and was puzzled what to do. Believing now that I was dealing with a sapremic condition, I thought of trying to remove the tumor per vagina and clean out the uterus. The patient seemed in so much shock and so exhausted that I felt sure that she could not stand an operation. I waited. That night her temperature was 106, pulse 160. I could not see that an operation would offer any relief, she was too weak. The following morning her temperature was 104.6; pulse 150; no tension. Believing that she would die if left as she was and knowing that if there was a chance an operation was the only hope, and acting, too, on the suggestion of Dr. Abell who was in the hospital and was kind enough to see her with me, she was anaesthetized by Dr. Heim with gas-oxygen, and an attempt to remove the mass per vagina. It only took a minute to see that this was impossible. An abdominal hysterectomy was performed, revealing an intra-uterine fibroid, constricted by the cervix and that part below the constriction gangrenous. This patient died 24 hours after the operation.

CASE IV.—STRANGULATED UMBILICAL HERNIA.—RESECTION OF THREE FEET OF GANGRENOUS ILIUM.

The last I will make very brief. Woman; married; 70 years old, umbilical hernia. 20 years standing, frequent attacks from bowel herniating and of reduction. On this occasion I saw her in the country at night where for three days every means had been resorted to to reduce the hernia, and every thing done to persuade her to be operated on; all without success. The abdomen was opened above the hernia which was larger than my head. Hernial ring incised; the thin parchment skin over the mass incised and three feet of a gangrenous perforated ilium presented. About five pounds of omental fat was excised; lateral anastomosis of ilium done; drainage instituted. She died after lingering several days.

DISCUSSION.

Simrall Anderson: The first case reported is more than interesting and illustrates the fact that in any case of intra-abdominal pain below the umbilicus, vaginal examination should always be made to determine whether to make incision in the median line or on the right side over the appendix.

The case of submucous fibroid is also of interest, and it is unfortunate that the doctor could not have pulled his patient through. I believe a sound introduced into the uterus in this case would have helped a good deal. I do not think I would have gone into the abdomen without endeavoring to find out a good deal by examination from below.

Bernard J. O'Connor: I had the pleasure of seeing the specimen of extrauterine pregnancy removed by Dr. Allen and it was very unusual, both in size and characteristics. It was almost the size of a grape fruit, slightly glistening and appeared very much like a gangrenous cyst. The doctor told me he did not know what the condition was until he removed it from the abdomen, and it was almost impossible to say what the mass was after it had been removed, but upon looking at it closely we could see a small portion of the fimbriated extremity of the tube. A very unusual feature is the fact that it reached this size without rupture.

One important point to bear in mind in such conditions as this is the absence of pain after gangrene has set in.

John K. Freeman: Dr. Allen spoke of having made a mistake. I do not think he made any mistake. As he stated, he made a faulty diagnosis in some of these cases, but each and every one was a case that demanded surgical interference, and if he will pardon me, I will say that I had a similar experience about three weeks ago. This was a case that exhibited the classical symptoms of appendicitis, but after making an examination per vagina I deemed it best to make an incision in the median line, which I did and delivered an extrauterine pregnancy.

The case of submucous fibroid is very interesting. A number of years ago I operated on a submucous fibroid not quite as large as the one reported here to-night, delivering it with obstetric forceps. It presented at the vulva just as one would expect a fetal head to do. I applied forceps and used more compression on it than I would dare to use on a fetal head, and succeeded in delivering the tumor, and found that it had a short pedicle, around which I threw a snare and removed it very nicely. The hemorrhage was controlled with a single suture. I did not measure the tumor, but it was so large that several of my friends who saw the case told me it was no use to attempt to remove it per vagina; that I might as well make an abdominal incision and take out the uterus.

In the case of hernia, of course the doctor did as well as could be done in a case where he had so much gut to resect. The shock was so intense before the operation, however, and would naturally be so afterwards, that one could not expect a much better result than he obtained.

M. Casper: I had a case of twisted pedicle during the past week which was remarkable because of the rapidity with which the tumor had grown. The tumor did not make itself manifest to the patient until about last Christmas, and when she was operated upon one large cyst was found to contain two gallons of fluid and there was another cyst, about the size of a cocoanut on the opposite side. The latter was doing more harm than the large one, which had a twisted pedicle. It was away back in the hollow of the sacrum, behind the uterus, which was two or three times its normal size, and the pressure on the vena cava gave the patient a great deal of trouble, her limbs being enlarged to two or three times their normal size, and this was what called her attention to the trouble.

A strange feature of the case was the fact that this woman, who was a widow, 42 years old, admitted intercourse, and had not menstruated for three months. With the trouble she had, we would naturally expect an excessive flow rather than an absence of menstruation. She had the typical jug-shaped uterus and I had to look twice to convince myself that I had made the proper diagnosis.

We all know that pain means devilment, especially within the abdominal cavity, and I believe if we are going to make any mistake at all, it should be in the line of exploratory operation. If we delay we cannot tell what is going on inside the abdomen.

J. Hunter Peak: All of these cases are very interesting, especially the submucous fibroid. I had an opportunity of seeing the ectopic gestation after it had been removed. I do not believe the doctor said anything about the size of it. If I remember correctly, it was fully as large as a goose-egg. It was the largest specimen of the kind I have ever seen without definite symptoms to indicate the condition the woman was in. It is certainly remarkable that it should have grown so large and become twisted without rupturing. There was very little hemorrhage in the abdominal cavity. We know that rupture ordinarily takes place from the third to the eighth week, usually at the sixth week, and it is marvelous to me that this had not ruptured.

The strangulated ovarian cyst exhibited by the doctor is not an uncommon condition. I remember seeing a case, some two years ago, in consultation with Dr. Emrich, and although the mass was black and gangrenous and had probably been twisted for several days, the pain had not ceased. The pain continued up to the time the patient went on the operating table. These cysts, or fibroids with pedicles are quite easy to remove, and the greatest danger in these cases is that they may go along and develop other systemic conditions before operation is done.

In regard to the fibroid case, I remember that, several years ago, before I did much surgery, I had been engaged to deliver a woman who thought she was pregnant. The case went along to what she thought was full term. I was called to see her and found her in what I thought was labor. Fortunately, however, for the patient as well as myself, there was no trouble about it and she delivered herself of a submucous fibroid without more hemorrhage than we see in an ordinary abortion, no packing being necessary to control it. She made a good recovery. Subsequently she became pregnant and died in child-birth, from what cause I do not know as I did not attend her.

These are certainly very interesting cases. If every one of us would report all of our cases, those that end disastrously as well as those that end favorably, we would be able to get much better ideas of how to handle these conditions.

Geo. A. Hendon: Illustrative of the severe tax imposed upon surgical judgment by intra-abdominal conditions, I would like to mention a case I saw last Friday, in an old man who, about 32 hours before I saw him, had been suddenly seized with severe pain about the umbilicus, with a sensation as if the bowels would have to move immediately, but upon attempting to evacuate the bowels, nothing in that direction could be accomplished. Vomiting ensued and he had some discharge of mucus from the rectum. He was put to bed and given hypodermics of morphin to relieve him. I saw him 32 hours after the onset of these symptoms, at which time the pain had subsided. No opiates had been administered since the day before. The vomiting had ceased, although he had taken nothing into his stomach—no water, food or medicine. There was considerable abdominal distension; pulse 84; temperature normal. My diagnosis was torsion of the sigmoid, and my inclination was to perform immediate operation, but as he lived some distance from the city, I decided to wait until the following morning. I advised against the administration of purgatives, and about six hours after I left he began expelling flatus, and by the following morning, 48 hours after the onset of the symptoms, the bowels had been evacuated and he was completely relieved. Of course, the interpretation of the case is plain. He probably had a half torsion of the mesentery of the sigmoid and it untwisted itself.

Another case, also illustrative of this point, was in a married woman who, after having missed three successive periods, was seized with considerable pain in the right side, accompanied by vomiting, some distension and rigidity. Upon examination, the uterus appeared to be enlarged, but a satisfactory examination could not be made because of the rigidity of the abdominal wall. Diagnosis of extrauterine pregnancy was made and the case was operated upon, and a large ovarian cyst, with twisted pedicle and gangrenous, was found in addition to an ordinary extrauterine pregnancy. Six months later she was delivered of a child at full term by normal labor.

These cases are illustrative of the extreme difficulty, not only in making the diagnosis, but in arriving at a conclusion asto what we ought to do. It is, I believe, a very god plan, in cases of suspected obstruction, to avoid the administration of purgatives if the patient is unable to expel any flatus. Any drastic purgative is, of course, entirely out of the question, and I do not believee that any purgative accomplishes any good where there is truly an obstruction of the bowel, and that by exciting peristalsis we are apt to tie the knot tighter, or wedge the obstruction more firmly. Therefore, I think it is a good rule, where the patient is not able to expel flatus, to withhold purgatives, wash the stomach and give enemas. In the presence of symptoms such as existed in the second case I recited, I do not think we can go wrong in making an incision into the abdomen.

SUPRAPUBIC CYSTOTOMY

(REPORT OF CASES.)

By C. G. Forsee, Louisville.

CASE I

Mr. O., 75 years of age, widower, white. Seen first two years ago, complaining of symptoms referable to the bladder. At that time I suspected urinary calculi and attempted to introduce a stone searcher but found that owing to some obstruction in the urethra the sound would not pass. I gave him urinary sedative and told him that the probabilities were that he would have to be anaesthetized before he could be examined and that he probably had stone in the bladder. Under the use of urinary antiseptics he improved so much that it was not necessary for me to treat him for this trouble for over a year. I was called to see him again, and found the symptoms much the same as the first time I had seen him. He was given urinary antiseptics but this did not afford the relief that it had before. He was complaining of intense burning sensation of the feet and legs also some difficulty in passing urine. He said that he must have some relief and suggested that he be taken to the hospital for an operation. A suprapubic cystotomy was done. This case we found two large stones, the primary stone being uric acid which was greatly enlarged by phosphates engrafted upon the original stone. This man developed broncho-pneumonia and died four days after the operation.

CASE II.

R. M., age 4, male, white. This child was brought to my office for the relief of prolapse of the rectum. The father gave the following history: At about two years old, he noticed some straining on attempting to pass water. Soon after this appeared, a protrusion of the rectum occurred, which the father says has been present over one-half the time for the last two years. The bowels have been regular except for occasional diarrhoea. When I first saw this patient the prolapse of the rectum protruding about 4½ inches, was present and had been out for ten days. The doctor, who referred him to me, was afraid to wait any longer fearing that the protruding rectum would become gangrenous. He was sent to the hospital and hot applications applied for twelve hours.

I suspected stone in the bladder from the history the father had given me and the condition present. I visited the hospital to study this case. The father told me that I would not have to wait long to see him attempt to pass water as this had been at least every hour for the past few days. I saw this child pass water, which came away in drops and occasionally a very small stream. I have never seen any one suffer more than this boy apparently did, as he would climb from his father's lap to the floor and from the floor to the bed and back again, and jumping up and down what time he was on the floor. This condition apparently was relieved after the flowing of water stopped. Thirty-six hours after he was brought into the hospital, he was given an anesthetic and the bladder opened suprapubicly. We found an oval stone measuring an inch and a half (1 1-2) long, three fourths (3-4) of an inch wide and one-half (1-2) inch thick. The bladder was contracted down tightly upon this stone and much thickened. A tube was put into the bladder and the bladder washed with boracic acid solution every day. I have never yet seen such a change in the disposition of a child as his attitude towards me was antagonistic, but after the operation I was always a welcome visitor and had the patient completely under my control. He went home at the end of two weeks.

This week I received a letter from his father which reads as follows

Dear Doctor—In answer to your letter I received a short time ago in regard to Ronald. He was well in a short time after he came home and has had no trouble since. I did not think it necessary to write.

CASE III.

Mr. M., age 52 years, white married. I was called to see this patient on account of distension of the bladder and inability to pass the water. Mr. M., gave a history of having bladder trouble extending over a year and at intervals had passed a slight amount of clotted blood. Had had gonorrhoea twenty years ago. I introduced a catheter and found that the bladder could not be emptied in this way, as the blood soon stopped the flow from the catheter. I suggested an operation and he was taken to the infirmary and suprapubic cystotomy done on that afternoon. The bladder was found to be much distended with large quantities of blood, after the removal of this, the bladder was irrigated with hot saline and on investigation we found a sessile tumor which covered the entire trigone, this was of villous formation and of course bled very freely, this was scraped off and hot packs used to control the hemorrhage which was very free. The tumor was misplaced and no examination was made. This patient is alive but the suprapubic wound has not entirely closed and this patient is greatly emaciated. Prognosis in this case I think is bad.

CASE IV.

G. H., colored, age 42 years, married. I was called to see this patient by a doctor who was called in an emergency and found the patient caught between a coal car and a wall. He was rolled by being caught as the car was backed in on the switch. He was removed to the hospital. He was catheterized and we found that the bladder had been ruptured, as it contained about one-half pint or more of blood which had not had time to coagulate. A suprapubic cystotomy was done and the bladder was found to be badly torn. This man had the pelvis broken in five places, which was afterwards determined, postmortem. While doing the suprapubic cystotomy we found that the horizontal ramus was dislocated at the symphysis and broken at about two inches from the symphysis, this piece was almost completely detached and free in the bladder and could have been casily removed but I shoved it back in place as near as I could as I did not want to add to the trauma already present. Strange to say this man had very little shock. The tears in the bladder were both extra peritoneal, the pain was very slight and the patient lived twelve days after the injury. He died of sepsis.

DISCUSSION.

Herbert Bronner: This series of cases is too interesting to go by without any discussion. The second case especially, which Dr. Forsee told me about at the time, was a rather remarkable one. Cases of stone in male children are not at all uncommon. The earlier statistics, which were not very accurate, showed that at least fifty per cent. of all cases of stone operated upon were in children. Later statistics show that, while the percentage is not as high as formerly believed, a very large percentage of cases of stone operated upon are in children.

The third case reported is also one of great interest. The fact that the patient was operated upon for tumor of the bladder and then became emaciated would arouse suspicion that the case is one of malignancy. I would suggest that it would be a very good idea to cystoscope the patient, and if no operative procedure can be done, it might be well to try fulguration which is a procedure that is becoming very much in vogue throughout the country. In non-malignant tumors a great many cures have been recorded under this method, and in malignant tumors, while it may not effect a cure, it will relieve the symptoms.

J. Garland Sherrill: The most interesting feature of these cases it seems to me, wa sthe failure of the rectal prolapse to recur. In a prolapse of that extent I have never seen it fail to recur, until some operative procedure was instituted to effect a cure. To me it is quite interesting that the straining was altogether due to the difficulty in passing urine, and that after operation for the relief of this condition was performed, the patient recovered from the rectal prolapse. It has been my experience that a rectal prolapse will persist even after we remove the cause.

WHAT DOES THE CYSTOSCOPE REVEAL?

(REPORT OF CASES.)

By George H. Day, Louisville.

Dr. J. Bentley Squier in his manual on cystoscopy says that the history of the development of the cystoscope is one of interest, and dates its birth over a century ago when Bozzini, of Frankfort, first attempted to examine the interior of the bladder by means of a metal tube, using a candle and reflector as an illuminating power. In 1867 Bruck, of Breslau, introduced stomatoscopy examination of the body cavities by means of a glowing platinum loop. Nitze, acting upon this, produced a cystoscope ten years later, using a platinum wire carried into the bladder, heated to whiteness, for a source of light and a system of lenses to aid examination. This instrument was the real parent of the modern cystoscope. A few years later, Edison produced the incandescent lamp, and in 1883, it was first applied to the cystoscope by Newman.

Although the cystoscope was primarily designed to be used as an examining instrument only, the greatest possibility of differentiating the urine of either kidney was soon recognized and resulted in having means for catheterization of the ureters incorporated in the early instruments of Boisseau du Richer and Brenner in 1888. Since then the profession has virtually been flooded with cystoscopes of various shapes and sizes, each having its particular adherents, some preferring the direct, others the indirect, both of which have their particular advantages. Nearly every cystoscopist is asked the questions:

1. Which is the better instrument, the direct or the indirect?

2. Which is the better instrument, the air or the water cystoscope?

Quoting Guiteras, as to the question, which is the better cystoscope, the direct or the indirect, he says, "The indirect is better. This is especially true in the hands of the cystoscopist who is an expert in the use of both instruments, as with the indirect, you can examine the interior of the bladder better, which is the object of cystoscopy. You can always see and pass the catheter into the ureter that can be catheterized by the direct instrument besides introducing it into many ureters that cannot be catheterized by the direct cystoscope on account of an enlarged prostate, a displaced or deformed bladder, or a cystocele. With the direct instrument, it is easier to catheterize the ureters of ninety-five per cent. of the patients, if this percentage can be catheterized; I feel quite certain that they cannot be, the first time, in pathological cases. Once the ureters are seen the catheters can easily be introduced as they are simply pushed straight into the opening. The direct cystoscope, however, does not give the examiner as good a view of the entire bladder and therefore is not such a god instrument for observation.

2. Which is the better instrument, the air or water cystoscope? The water cystoscope is certainly better, as the indirect cystoscope, which is the best general cystoscope, can only be used successfully in a water medium.

It has been my experience from using both the direct and the indirect instruments, that in comparison, the indirect is far superior, for with this instrument, it is possible to use in routine office practice, without a local or general anaesthetic, and the resulting pain is, almost without exception, very slight; while with the direct instrument, I have examined numbers of times, patients with the aid of a local or general anaesthetic and the pain and trauma was so severe that hardly without exception, they have steadfastly refused a second examination. The fact remains that a patient in the cystoscopic position thoroughly relaxed is a far better subject than one who is twisting and turning about, wrenching and complaining of pain.

I will reiterate that with the possible exception of urinary tuberculosis, that I know of no conditon that will not tolerate an extended examination in the office with the indirect instrument, including catheterization of the ureters without the aid of any local or general anaesthetic,—I say with possibly few exceptions, absolutely without pain. I mean the pain that is usually complained of in passing sounds, for it has ben my experience that the routine cystoscopic examination is very well tolerated. My reason for preferring the indirect instrument is from the fact that after the indirect is introduced into the bladder, thereafter the instrument is never moved,—no turning, twisting or pulling upon the triangular ligament or the prostate,—the instrument at all times being firmly held in the left hand and the examination carried out by rotation by the right hand. In this manner, the entire bladder may be investigated, the ureters catheterized practically without a movement of your instrument except that of rotation.

It is said that there are some advantages that the direct cystoscope has in some cases; for instance, when a large amount of pus is coming down the ureter from the kidney, clouding the field of the bladder, or when blood coming from the kidney renders the fluid medium difficult to see through, in either of which cases, the diseased kidney would be determined and the ureters easily catheterized with the instrument.

Personally I have never seen a contracted bladder in which the indirect cystoscope could not be used. At various times I have cystoscoped tubercular bladders where the maximum amount of fluid introduced would not exceed two ounces, using continuous irrigation to keep the field clear, and without exception, I have found the indirect to be preferable in these cases, for by way of comparison, I have used both the direct and the indirect to ascertain if the claims that the indirect could not be used in this particular class of cases were correct.

Some years ago Bryan reported a number of cases of renal calculi treated by the cystoscopes. He first located the stones by the X-ray. Those caught at the ureteral mouth or presenting into the cavity of the bladder he found could be snared or wormed free. Some calculi arrested in the ureter could be greatly assisted in their passage downward by the use of the ureteral catheter. Those that could not be dislodged by the catheter, he treated in the following manner: the ureter distal to the calculus is irrigated with an adrenalin solution, then the catheter was passed by the stones and to the pelvis of the kidney and the ureter uncomfortably filled with the sterile warm olive oil and the pressure from behind and the large calibre below acting in dislodging the stones. Of course, this procedure is applicable only in calculi of a very small calibre, and is, of course, not intended for use in the ordinary surgical condition. The case in question, March, 1912, Mr. M., age 45, for fifteen years had had considerable pain about the region of both kidneys radiating downward, and never remembered of having a distinct attack of real colic, but complained of severe dragging pain that was ever present. Never remembered of having had hematuria. Physical examination was negative, urethra, prostate and bladder, also negative, X-ray showed thre small calculi on the right side and on the left what appeared to be calcified cyst. Owing to the small size and location, I determined to try Bryan's method. On March 7th, 1912, I dilated the distal end of the right ureter with a warm sterile solution of olive oil through a number five catheter, using considerable pressure, then passing the catheter to the kidney pelvis, again injecting the oil. In like manner I treated the left. I ordered great quantities of water by the mouth, and told him to report in four days at which time, the same treatment was repeated. This time he told me his pain was considerably lessened, and also informed me that he had noticed passing several "gritts" in the meantime although I had given him strict orders to use a vessel and watch closely for the stones. I was never able to learn whether the gritts he spoke of were really the stones. The fact remains, however, that he has had great relief from his backache and will not consent to further treatment, nor will he be X-rayed.

CASE II.

Mrs. H., housewife, age 50, referred by Dr. M. Casper; family history negative; 4 years ago carcinoma of the cervix with hysterectomy, prompt recovery from operation; noticed some time later a leakage of urine into the vagina, although at times none could be seen for several weeks; vesico-vaginal fistula suspected, catheterized October 3, 1912. Examination disclosed both ureters low, the vesical opening down, hardly visible, however, the inter-ureteric ridge very prominent, the orifices displaced downward, both catheterized; from the base of the bladder behind the right orifice was found a large fistula; unable to pass catheter into the vagina. Diagnosis vesico-vaginal fistula. Interesting feature was that fistula could easily be mistaken for ureteral opening and very often is so diagnosed.

CASE III.

C. H., farmer, age 21, seen September 27, 1912, referred by Dr. J. Hunter Peak; family history negative; personal history negative with the exception of some months previous removal of the right testicle by Dr. Peak; for the past three weeks had noticed considerable haematuria accompanied by some tenesmus. Physical examination disclosed a large tumor in the region of the right kidney, left kidney region negative. Meatus very small, necessitated meatotomy; urethra, prostate and bladded negative, with bladder containing eight ounces of fluid; right urteral orifice very suspicious. Hemorrhage from right side very profuse. Double catheterization carried out. Urinary examination disclosed left urine normal, right malignant.

CASE IV.

G. S., age 23, referred by Drs. Farbach and Samuels, gave history of pain in bladder and deep urethra for past five years, four years ago a diagnosis of double renal tuberculosis was made, did not know if tubercle bacilli were detected, he has gained some flesh, family history negative, personal history negative, confesses a gonorrhea six years ago, his most distressing symptom being frequency of urination.

Cystoscoped November 14, 1912. Anterior urethra negative as to pain, considerable spasm of posterior, the vesical necks very hyperemic, prostate slightly enlarged, the base and vault of the bladder vas very suspicious and was almost justified by the so-called typical tubercular lesion to call it a renal tuberculosis. Catheterized both ureters and report of Dr. Farbach was negative for tuberculosis.

CONCLUSIONS.

1. Cystoscopic examination in your office of every suspicious urinary condition.

2. That ureteral catheterization is, as a rule, admirably borne by most patients.

3. That in gynecological laparotomies, a catheterization of both ureters may be the means of saving the possibility of injuring the ureters.

DISCUSSION.

Herbert Bronner: I do not think there is any longer a question as to the efficacy of the cystoscope as a means of genito-urinary diagnosis, nor do I believe there is much question as to which is the best type of instrument to use. With the exception of a few men in this country who still hold on to the direct type, most of them are using the corrected prismatic lens. Personally, after having used both of them, I do not know of any condition under which I would return to the old type. With the modern corrected prismatic lens, any man who can use a sound ought to be able to make a cystoscopic examination.

Just a few words about the first case reported. The man in this country who has done the most work along this line is Dr. Bransford Lewis, of St. Louis. In a recent article in the New York Medical Journal he reported a number of cases and made a defense of this method of treatment. He made the statement that operation for ureteral calculi is, at best, a formidable one, and that, in his opinion, the patient should have the benefit of this method of treatment.

I believe that practically every case of obscure urinary conditions should be cystoscoped, but the two conditions in which the cystoscope is of greatest value are, haematuria and in tuberculosis of the urinary tract, in order to determine the extent of the tuberculous involvement.

M. Casper: Dr. Day is to be congratulated upon the result in one of the cases he reported. This was the case upon whom a hysterectomy was done four years ago, for carcinoma of the cervix. I would say, in passing, that the carcinoma has not shown any signs of recurrence as yet. These urinary symptoms developed about six weeks after the operation and I thought perhaps I had pinched off one of the ureters, but I could never decide which one it was, from the fact that the catheter seemed to pass through into the ureters all right.

Another interesting feature of this case was that this patient was going to be operated upon for this fistula, shortly after the first of the year, but it had closed up by that time and has not bothered her any since. There has not been the slightest sign of leakage since the first of January.

J. Hunter Peak: I am not sufficiently familiar with any of the instruments referred to by Dr. Day to go into a detailed discussion of their merits, nor with the operation of cystoscopy either, although I have made a few cystoscopic examinations. I believe, with Dr. Day, that cystoscopy might be done more frequently with better results in the way of clearing up diagnoses. For instance, in the case referred to him by me, the opening was very small, and it would have been impossible, without urethrotomy, to have done a cystoscopy. In the second place, the history of the case indicated to my mind that he probably had some condition of a very serious nature—either a tuberculous or a malignant condition of the right kidney. The urine was so full of albumin as the result of hemorrhage, that it was impossible to make a definite examination. There was so much blood that it could not be determined whether it all came from one kidney or whether both kidneys were involved. Knowing Dr. Day to be very familiar with this kind of work, and particularly with the instruments he uses, I asked him to make a ureteral examination and catheterization in order to definitely ascertain the condition of the left kidney. There was no trouble in making the diagnosis of an enlarged kidney on the right side.

Dr. Day was somewhat mistaken as to the time the hemorrhage began. He had been bleeding for only about four weeks and had been suffering pain about six weeks. He has been perfectly healthy since the right testicle had been removed, six months before. Three years before the time he was cystoscoped he had been operated upon for appendicitis. The testicle I removed, upon examination by Dr. Farbach, was pronounced tuberculous. For that reason I believed that, in all probability, he had a tuberculous kidney as well, and possibly a tuberculous bladder, although he had no symptoms of any bladder trouble.

The appearance of the testicle, from a clinical standpoint, did not indicate a tuberculous condition, for the reason that the cheesy masses found in tuberculosis of the kidney, and other tuberculous conditions, were not present. The kidney itself was a mass of what looked like disintegrated tissue, without any cheesy particles in it.

Dr. Day not only made this examination with as much ease as the average man could introduce a sound, but he was also able to demonstrate, to your own satisfaction, anything he was talking about. Examination of the urine proved that the blood was coming from the right kidney, that from the left kidney being normal.

This man's condition was such that I deemed it advisable to do an exploratory operation, but upon making an incision I found the kidney so adherent to everything that it could not be removed. He died about two months after the time he had his first symptom. The kidney was twice as large as a quart cup and malignant.

SEPARATION OF THE SYMPHISIS DURING DELIVERY.

(REPORT OF CASE.)

By Henry Enos Tuley, Louisville.

Because of the rarity of the accident of separation of the symphisis during labor, I deemed this case of sufficient interest to report to this society. Upon looking up the statistics on the subject, I found that only about 130 similar cases have been recorded. It occurred only three times in 94,149 deliveries reported by Hirst.

This patient was a primipara, who had been in labor a number of hours, and it was thought best to apply forceps to effect delivery, as both the mother and the fetus were showing the effects of the hard labor. Forceps had been applied and considerable traction had been made, with the head presenting in the occipito-posterior position. I think the forceps had been on about an hour when I saw her. Recognizing the state of affairs, I turned the head with forceps and reapplied it, and the child was delivered with very little traction. There was considerable asphyxiation, and while efforts were being made to resuscitate the child by artificial respiration, it was noticed that the mother was having considerable hemorrhage. The placenta was then speedily delivered, but the hemorrhage continued. It was then discovered that the hemorrhage was not coming from the vagina but from above, and investigation disclosed a rent in the soft structures about the clitoris. In attempting to pack this to stop the hemorrhage, an opening was found between the two ends of the symphisis pubis, which were separated to the extent of two or two and one-fourth inches.

I am convinced that the separation occurred prior to the turning of the head, and that rupture of the soft parts occurred as the shoulder was being delivered, as there was no hemorrhage during the delivery of the head, plenty of time being taken to allow the perineum to distend.

The parts were easily approximated by pressure on the crests of the ilium on either side, and held together by adhesive strips encircling the pelvis at the crests of the ilium, reenforced by a tightly applied pelvic binder. Following delivery the patient complained of some pain for two or three days, and some difficulty was experienced in effecting catheterization because of the swelling of the parts. A catheter was introduced and allowed to remain for two days, after which the patient was able to void naturally.

Most authorities have very little to say in regard to separation of the symphisis during delivery, except to mention it as an accident that may occur as a result of prolonged labor. All authorities speak of the natural mobility of the pelvic bone during pregnancy, and state that prolonged labor, prolonged application of forceps, or injuries following version, may result in separation of the symphisis.

The subsequent history of this case has been very satisfactory, although sufficient time has not elapsed to be able to say whether or not there is perfect union. The after care of a case of this kind is practically the same as following a symphisiotomy.

MOROVAN'S DISEASE.

(EXHIBITION OF CASE.)

By M. L. Ravitch, Louisville.

This patient, I am exhibiting before you, is suffering from Morovan's disease, a peculiar type of syringomyelia.

Since the disease has been often misdiagnosed as leprosy on account of its cutaneous manifestations, such cases come to the dermatologist. To my mind, this disease belongs to the domain of neurology, rather than dermatology, since it is due to structural change in the spinal cord.

This patient consulted the late Dr. Cartledge about four or five years ago but he was unable to do anything for her. She complained of great pain in the left arm, loss of muscular power followed the pain. Later, trophic changes in the form of recurring Whitlows followed. A short time afterwards, phalangeal necrosis and mutilation set in.

Dr. Chenoweth removed all of her fingers except one that was removed by Dr. Morrison, and she felt greatly relieved.

Now the some process is starting on the other hand. Although there is preservation of tactile sense, there is at times a partial loss of sensation to heat, cold and pain.

Any suggestion in regard to treatment, though I hardly think there is any, will be welcomed.

DISCUSSION.

Jno. J. Moren: Dr. Cartledge referred this patient to me several years ago with the history that Dr. Morrison had removed one finger. One or two fingers on the left hand were involved at that time. I remember that I considered syringo myelia but came to the conclusion that it was a local vasomotor disorder belonging to the type of Reynaud's disease. In the absence of loss of pain sense, I do not see how the doctor can establish a diagnosis of syringo myelia, because the loss of pain and temperature senses is oftentimes the first and only symptom of that condition. This is due to the fact that these cavities in the spinal cord occur in the center and interfere with the pain and temperature senses. Therefore, I believe this is simply a local manifestation. She is a gardiner's wife and has worked very hard.

J. Rowan Morrison: I saw this case the first time when I was a student. She complained of a great deal of pain and I took off one finger. After that she came to see me a number of times and all I could make out of it was a vasomotor condition, and I put it in the type of Reynaud's disease. Dr. Marvin thought the same. Then she went to Dr. Chenoweth and asked that the fingers be removed, and insisted upon it so strongly that he did remove them. I do not know whether or not it gave her relief from pain. At that time the other side was not involved. I would still put this condition in the class of vasomotor disturbance rather than changes in the cord producing a syringo myelia.

M. L. Ravitch, (Closing): While I am not a neurologist I beg to differ with Dr. Moren. While Reynaud's disease and Morovan's disease belong to the same class, there is a distinction between the two. I have had the pleasure of seeing quite a few cases. It usually starts with an erythema of one or two fingers, followed by Whitlow's. There are very seldom the same skin symptoms manifested as you see in Raynaud's disease. In Morovan's disease only the fingers and toes are affected, while in Raynaud's the ears and nose are often involved. Look up the atlases on both Raynaud's disease and syringo- myelia, and you can see the true picture of this woman's case. I am still of the opinion that it is a case of Morovan's disease.

A CASE OF PELLAGRA.

By M. L. Ravitch, Louisville.

S. C., farmer, age 29, was referred to me by Dr. Hall, of Hart county. About two years ago the patient began to feel very weak. Had a stubborn case of diarrhea that did not subside so readily. Patient complained of a burning sensation and soreness in the mouth, followed by an excessive secretion of saliva. Sun-burn like an erythema appeared on the forehead and back of both hands. With advent of the cold weather the diarrhea, mouth symptoms and skin lesions began to disappear but he felt very weak. He could not perform any work and lost all the ambition he had.

With advent of hot weather, the skin lesions, mouth symptoms, salivation and diarrhea reappeared. The skin lesions reappeared in the same spots, gradually assuming an eczematous nature. Mental and nervous symptoms became more pronounced. Movements slow and languid, sensibility diminished. For the last few months patient felt better, but very weak. At present, th eskin lesions are reappearing again, mouth becoming sore, salivary glands more active.

I was sorry I had no time to have an examination of feces made, as some of the pellagrins suffer from hook-worm.

Cacodylate of sodium injections and mild salves ordered.

DEPARTMENT OF EYE, EAR, NOSE AND THROAT.

By C. T. Wolfe, Louisville.

I.

MANAGEMENT OF SEVERE BURNS OF THE EYES.

H. G. Langworthy (*Iowa Medical Journal,* July, 1912), believes that it may be said with truth that the treatment of conjunctival and corneal burns has always been the *betenoir* of ophthalmic profession. By this he means from the standpoint of actual ability as regards medicinal substances at our command which will fully counteract, control, or even limit the disastrous results which often follow in the wake of severe burns. Indeed it would sometimes seem that we gain little as regards prevention of sequelae, even when the patient is seen within a few moments following the accident. Too often a cornea, which appears clear and untouched for the time being, will in the course of two, three or five days, develop a general haziness and sloughing to the dismay of the attending oculist. He further believes that our best line of treatment has advanced little as compared with the advances of the general surgeon in his management of extensive burns of the body elsewhere. The reason for this, however, is plain, and is to be found in the law of specialization of an organ. The more highly specialized a tissue becomes, the less tendency it shows toward the reproduction of new tissue to replace that which has been destroyed.

The best treatment for burns of the eye can be summed up in a very few lines: All foreign material must be removed at once. If flying lime has been the dread agent, as is frequently the case, flushing the conjunctival sac with an ounce of simple oil in a syringe is at once indicated. Often in eye burns from quick lime, fine particles of lime become partially embedded in the corneal tissue and unless removed their escharotic action may be continued. With the eye as free from offending material as possible, the important treatment is then instituted which consists in the instillation three times daily or every four hours, if necessary, of a solution containing roughly, atropin, 1 per cent; cocain, one-half of 1 per cent; incorporated in an ounce of pure olive oil. A heavy eye shade should also be employed and the patient kept as quiet as possible.

Among other excellent and somewhat similar prescriptions favored by various oculists may be mentioned the ointment combination of atropin, grains four; yellow oxid of mercury, grains five, in an ounce of petrolatum and used three times a day.

The prognosis of burns involving the cornea and conjunctiva is always grave. Disturbances of nutrition may be followed by sloughing and the formation of symblepharon or even panophthalmitis.

II.

SYMPATHETIC OPHTHALMIA.

F. Deutschmann (*Annals of Ophthalmology,* July, 1912), thus sums up the results of his experiments and investigations on the pathogenesis of sympathetic ophthalmia.

1. I have succeeded by inoculation with particles taken from the choroid of a human eye diseased with sympathetic ophthalmia, in producing genuine sympathetic ophthalmia in monkeys and rabbits.
2. I assert that the exciting cause of sympathetic ophthalmia is a grampositive diplococcus: perhaps a modified sarcoma.
3. The second eye becomes diseased when the bacteria succeed in passing from the first eye into the lymph channels of the first optic nerve, past the optic chiasma, through the lymph spaces of the second nerve into the orbit.
4. The course of the bacteria passing from the eye into the optic lymph spaces, and vice versa, is a two-fold one; either direct from the choroid into the intravaginal space, or along the anterior ciliary vessels from the eye ball, around it, within the musculature of the orbit, and eventually back of the eye along the central vessels into the spaces of the optic nerve and vice versa.
5. The chronic inflammatory changes in the meninges consist of circumscribed foci and cause no general symptoms.

III.

DEFORMITIES OF THE NASAL SEPTUM AND THEIR TREATMENT.

D. D. McHenry (*The Medical Fortnightly,* Sept. 10, 1912), says the deformities of the nasal septum are very common. Some go so far as to say that a perfectly straight septum is not to be found except in the pure type of mankind, as the Hindoos, Malays, Arabs, and our North American Indians. Statistics differ a great deal as to just the percentage of civilized mankind affected. Most anatomists give 90 to 95 per cent. Zuckerkandel only 40 per cent. It has been said that deviations are rare before the seventh year. Mayo Collier, in the examination of 1,050 cases, said permanent obstructions are rare under ten years of age. More often they are developed from ten to sixteen, during the rapid growth of the face and jaw.

The septum develops late. It is the last of the facial bones to ossify so its place is fixed for it before it is fully developed. The principal developmental centers of the cartilege do not become active before the eighth or ninth year. This probably explains why deviations rarely occur before the seventh year. Ossification begins in the posterior part of the septum, which probably explains why deformities are rare in that part.

SOME POINTS IN THE MANAGEMENT OF COMPOUND FRACTURES.*

By A. David Willmoth, Louisville.

In discussing the subject of fractures in any phase, it is not necessary to call attention to the fact that they comprise a rather large per cent of practice of every one doing surgery and likewise the general practitioner, especially if he practice in the smaller towns where those devoting their time to surgery cannot be had without some delay and inconvenience. Also the subject will bear opening again at this time for the reason that the laity are becoming more and more familiar with the appearance of fractures as seen by the X-ray and furthermore damage suits are frequent in this field of work.

Certain facts must be taught the laity and certainly we owe it to ourselves to be able to combat some of the ideas that are prevalent to-day relative to the results to be expected in the management of any fracture and especially that class under discussion. The laity must be taught that it is not necessary to have an anatomically perfect result to get a perfect functional result.

Compound fractures are the result of force being applied to the bone after the bone has broken, or at the time the break occurs; hence we speak of those of direct violence and indirect violence, a classification as old as surgery itself, but of incalculable value in considering the management.

With few exceptions all those the result of indirect violence are aseptic and will remain so if properly managed, so also with few exceptions are those of direct violence, septic. This does not of course refer to those made compound by operation for the purpose of fixing the fragments. In the first class our treatment is one of asepsis while in the other it is antiseptic.

In the first class of cases I am sure many are infected in the first efforts to cleanse the field surrounding the injury, and I may go still further back and say many are infected in an attempt to protect the limb against further injury until the physician can be had.

The result desired in any fracture is to reduce the fracture and maintain the reduction, two things either or both of which is not always so easy to accomplish.

In the first variety of compound fractures before any attempt is made to reduce the fracture the entire field adjacent to the wound must be cleansed, this should be done by first packing the wound with some suitable material as gauze, to prevent the infection from the surface gaining access to the wound this gauze should be impregnated with some aseptic agent such as iodoform or plain gauze saturated with iodine solution, after this the field should be cleansed with soap and water followed by ether and alcohol and finally the entire field washed with tincture iodine.

Where the parts are covered with grease this should first be removed with gasoline, oil or turpentine, preferably the first since it is non-irritating to the wound should it gain access.

After the cleansing has been thoroughly done an attempt is made to reduce the fracture which is usually accomplished by extension and counter extension together with pressure on the fragments by thumbs and forefinger of the operator to mould them in position. The success of this manipulation can usually be determined by getting that classical symptom "crepitus," when this is gotten we are sure none of the muscles or fascie supervenes between the broken ends of the bones. The wound should then be closed by a few metal clips applied to the skin and dressed as any other wound.

It will be noted that I do not advise the use of cat gut to the deeper structures for the purpose of closing them together as has been formerly taught. This is not advised for the reason that in many cases the cat gut will be the means of infecting the wound and thereby defeating the desired aim viz.: to get a perfectly aseptic wound and the earliest possible repair.

In those cases resulting from direct violence the wound is infected by the object inflicting the violence. Such cases demand the most careful and painstaking treatment to prevent the infection from invading both bone and surrounding structures.

One of the surest ways to cleanse such wounds is to pour them full of iodine to begin with, this destroys such infection as is superficially located on the structures, after this opening up the wound the sawing off of the ends of the bones if they have been stuck in the ground together with the most thorough removal of every possible particle of dirt, etc., in the medullary canal and a final coating of iodine to insure against infection.

If we are unable to cleanse the wound to our entire satisfaction or if the accident has occurred near a stable or along the roadside where the tetanus bacillus would most likely be, I would strongly urge that the wound be left open so that constant irrigation can be carried out with normal saline (and not with bichloride solution as the mercury salts destroys the embryonal cells so much needed in the repair). It must be impressed on the minds of the patient and family that even though the wound be left open that tetanus can develop by the pyogenic organisms using all the oxygen that can get through the secretions to the wound and allowing the tetanus bacillus to thrive and multiply beneath.

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*Read before the Muldraugh Hill Medical Society.

The combination plaster and U-shaped malleable iron splints allow of this nicely when the ends of the plaster can be rendered water tight. This is accomplished by dissolving the No. 2 gum rubber in gasoline or chloroform until it is the consistency of cream then mixing in it cotton until it is a doughy consistency this dough is placed in the space between the skin and plaster cast until it is calked, then spread out on the skin and plaster to make sure of a firm adhesion to both which will readily occur, as soon as the rubber touches either. By allowing about two hours for drying of the rubber you can render it water proof with one coat gum shellac, this will enable you to maintain constant irrigation without soiling the dressing and requiring its removal thereby disturbing the fracture.

Extension can be had by widening the U.

In most cases the fragments can easily be kept in position by drilling and tying with thirty or forty day cat gut or kangaroo tendon or wiring with annealed iron wire or bronze aluminum wire. The first has the advantage over silver wire in that it is stronger and in time it becomes converted into the oxide of iron by the blood and is absorbed and in so doing does not have to be removed as is the case in other metallic substances. If the wound is drained and closed with plaster it should be changed in forty-eight hours, at which time if the drainage is only serum if proper technique is used to prevent secondary infection from the dressing no further disturbance of the dressing is needed for six or ten days. If the temperature in an open fracture goes above 100° on the second day together with pain in the limb the presence of infection should be suspected and the wound opened. Stitches removed to promote drainage and if infection is especially virulent or has gained headway a counter opening should be made and tubes inserted to allow a free and continuous irrigation. If the bone is involved along the shaft as shown by fever and chills a number of small openings should be made along its shaft with one inch trephine or the small bit of a Hudson instrument to give you advantage of perfect drainage. This together with hot applications of saline or magnesia sulphate every two hours aid much in getting a quick relief. The fracture should in a way be ignored during this time only holding the limb in line, ever remembering that the bone will be as much broken at the end of the week as when you first called. Where the fragments of the leg cannot be kept in place by the plaster due to overriding, I would suggest that the patient be lifted up until a full sheet of adhesive twelve inches wide and long enough to reach from the buttock to the nape of the neck can be made fast to the bed sheet. The patient is allowed to lay down on this by so doing you get a fixed point then by applying Buck's extension, or screw appliance of Allen, something can be accomplished, that would otherwise be impossible. Extension should be made until pain ceases and patient is comfortable. Should this fail in holding the bones in alignment, the next best thing is the plating of the bone with a Lane plate.

The Lane plate is also to be recommended in the compound comminuted fracture where the fragments are difficult to keep in place.

In the use of the Lane plates it must be ever remembered that certain ideas be carried out that is not done in every day surgery.

First the technique employed must be far more perfect than is ordinarily carried out even in opening the abdomen, this means that only those surgeons whose technique is perfect, will get anything even approaching a fair degree of success in their work.

One has only to watch Mr. Lane a short time during an operation to realize how very near perfect his technique is, and how extremely careful he is, even to the minutest detail.

Where they give trouble after the fracture is healed they can be removed without endangering the site of the fracture or the patient's life.

Serotherapy in Nephritis.—The form of serotherapy to which Dominguez refers is that introduced by J. Teissier of Lyons in 1908, which he says has passed out of the tentative stage into practical and successful use. He states that the method has been applied in Cuba by various clinicians who have warded off severe uremia, but he gives no clinical details. The method was described in the columns of the Journal A. M. A., Nov. 14, 1908, p. 1738. It is the subcutaneous injection of serum from the renal vein of the goat. The blood in this vein must contain the internal secretion of the kidney, if such exists, and clinical experience confirms this theoretical assumption. The principle involved is different from that of organotherapy; the organ is not removed but continues functionating and passing out its vital secretion, and this internal secretion then acts on the other glands and on the emunctories.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION
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VOL. XI. BOWLING GREEN, KY., APRIL 1, 1913 No. 7

EDITORIAL.

CHRISTIAN COUNTY.

The Editor of THE JOURNAL had the privilege of meeting with the Christian County Medical Society at the Western Kentucky State Hospital for the Insane, at its regular February meeting. Forty-four physicians partook of the delightful lunch served by Dr. Sights and were active in their discussions of the scientific problems presented before the meeting. The physicians present inspected the dairy plant of the Institution, which is modeled very closely after the great Haggin dairy at Elmendorf and we feel sure that physicians having former patients in this Institution will be glad to know that they are served with cleaner and richer milk every day than can be secured in any city in Kentucky except where certified milk can be obtained. At the conclusion of the meeting, the society made an extended trip of inspection through the Institution. Everything was of interest but it was especially noteworthy that no patient in the entire place was under the slightest physical restraint and yet they were far more orderly and quiet than under the older plan. The absence of the odor usually present in institutions where sick people are kept for any length of time was also noteworthy. Of especial interest, was the pavillion for the treatment of tuberculosis and while we all congratulate Dr. Sights upon the perfect arrangement for caring for insane patients who have tuberculosis and for preventing its spread amongst the other inmates in his institution, we could not help regretting that the State has made no provision for the treatment of sane people who have tuberculosis or for the prevention of its spread amongst the otherwise healthy and sound. If those of our readers, who have patients in this Institution, will tell about this trip of inspection to the friends and relatives of the inmates, we feel sure that they will all be greatly comforted. The food supply to the patients is of the very first grade. It was thoroughly clean and well prepared. In fact, we do not know a private hospital anywhere that is in better physical condition than our State Hospitals for the Insane are at present.

"THE DOCTORS AND ADVERTISED MEDICINES."

The following editorial in the issue of the *Journal of the American Medical Association* for March 1st is so full of good sense that we reproduce it in the hope that those of our readers who have already read it in the large Journal will read it again and take it around to their newspaper man and read it over to him and discuss the matter. It is important for the physicians to remember that because they know these things so well is no reason for even the most intelligent layman understanding them without some discussion:

"An interesting and instructive discussion of the 'patent-medicine' business recently appeared in the editorial pages of the Philadelphia North American under the above quoted title. The editorial well described the difficulties which have beset that paper because of its advertising policy. It says that argument and pressure alike have been brought to bear by the 'patent-medicine' men because it refuses certain kinds of medical advertising and it explains on what grounds the rejection or acceptance of 'patent-medicine' advertising is based. On the other hand, the North American says that it has received almost as much criticism from the medical profession because it has not excluded all proprietary remedies. But, says the paper, 'we believe their (the physicians) contention that all these remedies are without merit is untrue.'

Then it propounds this question to the medical profession:

" 'Why is it that a remedy or preparation which the most ethical and conservative of them prescribe, so long as it is advertised only in medical journals, is immediately scouted and condemned by them when it appears among newspaper advertisements?'

"The answer to this question is that the physician does not condemn a non-habit-forming and non-toxic preparation that is first introduced only to the medical profession via medical journals but later is advertised direct to the public in newspapers, if—and this is a big 'if'—the preparation is advertised with the same degree of truthfulness in the daily press as it was advertised in medical journals. To particularize, the North American refers to an ointment that a few years ago was advertised only in medical journals but more recently has been widely advertised in the newspapers. The paper says that since the preparation has gone direct to the public the doctors 'have discovered that it is a useless sham.' The ointment referred to, doubtless, is Resinol. Our answer to the *North American's* criticism is a simple one. The objections to Resinol are not that it is advertised in newspapers but that it is advertised fraudulently in newspapers. For instance, when the Resinol advertising was confined to medical journals no such statements were made as: 'Resinol heals the worst cases of eczema.' Yet this is exactly what has been claimed for this preparation in the newspapers. The outrageous falsity of such claims can be fully appreciated only by physicians who recognize and admit that many cases of eczema baffle the skill of men who have devoted a lifetime to its study.

"The *North American* refers also to 'a tonic and nerve food whose name is becoming a household word through advertising.' And it says further:

" 'It seems but yesterday that it was recommended by specialists and endorsed by the professional journals. But now that it is urged direct on the public through magazines and newspapers, the doctors tell us that it is only a form of 'cottage cheese' utterly without merit.'

"This statement contains both truth and error. It is true that Sanatogen—the product referred to, of course—has been 'recommended' by physicians and 'endorsed' by medical journals. And we would say that the same sort of physicians who endorsed it before it was advertised to the public are still endorsing it; and the same sort of medical journals which praised it before it went into lay publications are still praising it—because they are carrying the advertisements themselves. No doctor who has given the matter thought would say that Sanatogen is utterly worthless. In fact, it would be absurd to say that cottage cheese is worthless. What we have said, both at the time that it was advertised only in medical journals and to-day, is that Sanatogen is advertised under claims that mislead and thereby defraud the public.

"The *North American* holds, and we believe rightly so, that simple home remedies, proprietary or otherwise, are legitimate articles of trade. To illustrate its point, however, the newspaper falls into an error that is not uncommon. This can best be explained by quoting:

" 'Having consulted our physician for a slight stomach disorder, we received a prescription and had it filled at a cost of 50 cents. The prescription, as it happened, was returned with the bottle of liquid. During a discussion, the paper was shown to an intern in a Philadelphia hospital. He said the formula was very well known; was used by physicians everywhere. And the same thing, he added, was on the market in convenient tablet form, sold under a registered name. We bought a package at a cost of 5 cents. The same remedy from a prescription with a physician's fee, cost $2.50.'

"The fallacy of this argument is evident to every physician and to the average layman. The editor who consulted a doctor for a 'slight stomach disorder' may have had merely a passing indigestion or he may have had incipient cancer of the stomach or other serious affection. That he had the former, he learned from the physician. It was for this information, primarily, that he paid his $2, not for the prescription. Furthermore, even admitting that the prescription was, as the intern said, a well-known one, the intern did not know and could not know that 'the same thing . . . . was on the market in convenient tablet form, sold under a registered name.' The only man who knows the composition of the 'convenient tablet' is the manufacturer of the tablets. Evidently, then, the editorial writer could have had no means of knowing that he was getting 'at a cost of five cents' the 'same remedy' that was called for by the doctor's prescription. In other words, in the one case the editor obtained an expert opinion on the matter of vital interest to him—his physical condition—and he obtained for the treatment of his condition a preparation whose composition was known. For these, he paid $2.50. In the other case, he would have obtained, for an unknown—to him—ailment, a box of tablets of unknown composition that might or mignt not have been of value. If the editor, in this instance, had had an incipient gastric cancer and decided to 'treat it' in the cheapest way—by buying five cents' worth of tablets—he would have saved $2.45 and possibly lost—his life.

"While, then, we cannot accept all of the arguments put forth by the *North American*, we believe that the editorial as a whole is an excellent one. It represents the attitude of the intelligent layman toward the 'patent-medicine' evil. That the medical profession is responsible for at least a part of the evil we must regretfully admit. The prescribing of unknown preparations has been a practice so common in the profession as to nullify to a large extent all efforts that are being made towards ridding the public of the nostrum evil. We cannot too often assert, however, that the medical profession does not believe that there is no place in commerce for simple home remedies. Neither can the medical profession object to any proprietary preparation solely on the ground that it is advertised in the lay press. What it does object to is the fraudulence that is apparently inseparable from the exploitation of such preparations when sold to the public."

A MODEL.

The Nelson County Medical Society has a way of doing things a little better than the best. The following letter from its distinguished Secretary is so good that we give it to our readers in full:

"Dear Secretary:

"I herewith hand you my report for 1913 for seventeen members, check $51.00. It's a little late, which I suppose is the fault of the County Secretary, although the Secretary is now advancing the dues.

"I have not reported the non-members for the reason that I hope to get them yet, and keep up our original number. You note we lose one who has moved and gain Dr. Nichols. I hope to have only one non-member.

By the way, you have been sending out a number of circular letters advising us that this, that and the other county, had decided to pay $3.00 dues, and that you were sure that we would be glad to know it. Now we don't care what other counties "decided" to do. We in Nelson don't "decide" to do anything but just "do" it and say nothing about it. Dues and finances never interrupt our meeting. We have too many other things of vastly more importance to occupy our time. Now I hear you say, "Well, what do you do? How do you collect your dues?" So I will tell you. The County Secretary, who is a kind of old fogy, just calls up Dr. Smith, Dr. Jones and Dr. Brown and on down the line to Dr. Omega and says to each of them; "Doctor, owing to the great number of malpractice suits brought in 1912 the House of Delegates "decided" that unless we wanted a deficit we had better increase the dues to $3.00 for 1913." And from my report you see the *result*. We are going to have a good meeting next week. Dr. Greenwell's report of "Diphtheria" published in January has excited some interest, as calls have come in for copies of the Journal. I sent mine to Missouri and wish you to mail me another to fill my file.

"With best wishes, I am,

"Yours fraternally,
"HUGH D. RODMAN."

DELINQUENTS.

Several years ago, we received a letter from an Irish patron enclosing $5.00 to be credited on his medical bill. It was accompanied by a note saying: "If you receive this, please put it on my bill. If you don't receive it, let me know and I will send you another one." In order to prevent the same "bull," the Editor is sending this last notice to all of our members who have not paid their dues and subscription to the Journal for 1913. Membership in the State Association has never been worth so much as it is to-day. Splendid results are being accomplished all over the State. On the other hand, the profession of the State needs the services of the doctors in a way they have never had before. If you have not sent your dues to your county secretary before, please do so now. Also, please remember this is the last notice.

NURSES DESIRED.

The Waverly Hill Training School for Nurses, of which Miss Lillian Rice is Superintendent, and which has charge of the nurses at the Board of Tuberculosis Hospital and the Waverly Hill Sanitarium at Louisville, is anxious to secure some additional pupils for nurses. After two months of probation, they pay $5.00 a month for the first year $7.50 for the second and $10.00 for the third. It is a pleasure for the Journal to say to the physicians of the State that this is a splendid opportunity for any healthy, competent young woman of your vicinity. It is within our personal knowledge that Miss Rice is one of the most competent nurses anywhere and it is a rare privilege for a young woman who desires to qualify herself for this grand profession to be associated with her.

A GREAT, GREAT GROSS.

Dr. J. F. Jones, of Mt. Sterling, reports the most remarkable bunch of "twelves" that has ever come into the obstetrical practice within our knowledge. Dr. Jones would like to hear from anybody that could beat it. The baby was born the twelfth hour of the night, the twelfth day of the month, the twelfth month of the year and the twelfth year of the century. He weighed twelve pounds, had a cord once around his neck and a battle door placenta. His name is Andrew J. Cline, which contains twelve letters. If anybody has a case in the "twelve" class, let them bring it forward.

SCIENTIFIC EDITORIALS.

THE INFLUENCE OF OTOGENOUS DISEASE UPON THE COAGULATION OF BLOOD.

Dr. Ernest Urbantschitsch who does a large amount of pathological research work in connection with the large clinical material of the Vienna Ear Clinic and who recently published an interesting report of the influence of otogenous disease on the differential blood count is now actively engaged in the study of the relation of otogenous disease to the rapidity of blood coagulation. In a report of 55 cases in the *Monatschrift fur Ohrenheilkunde* of September, 1912, he forms conclusions which should be of value in the differential diagnosis of intracranial complications of ear disease.

Urbantschitsch believes that the prevalent idea that thrombus formation is nearly always due to a general infection is fallacious, and that the thrombus formation frequently precedes the infection. In support of his view he cites numerous cases of sterile thrombi of the lateral sinus notwithstanding an accompanying perisinus abscess which contained numerous pathological organisms. Experimental attempts to bring about thrombi by local infection all failed unless the blood current was coincidentally infected. The impression that in infected thrombi the thrombus forms primarily and the infection follows, is gaining favor.

However, infection seems to play an important part in the coagulation of blood; but it does so by increasing the property of the blood to coagulate rather than by its local action. While the nature of the change in the blood which hastens clot formation is unknown, the general belief exists that the changes are of a chemical nature.

The fact that not more investigations regarding the rapidity of clot formation have been made can be explained in the unreliability of former methods of determining this.

Some investigators drew the blood in a small tube, others dropped it into a hollow slide, etc., so that finer differences in time of coagulation could not be determined.

A new method was recently introduced by Wright, which is rapidly carried out and which determines the time of coagulation to within a few seconds, so that we are now able to obtain uniform results.

It is carried out as follows: A drop of blood is taken from the finger, cleansed with ether and without squeezing the finger and is drawn into a Wright pipette. This pipette resembles a medicine dropper but its capillary portion is of much finer calibre. The capillary portion is 10 cm. long, has a uniform diameter and is marked dividing it into four equal portions. Mercury is first drawn into the tube (by compressing and relaxing the rubber nipple of the dropper) until it fills the first quarter of the tube, then enough blood is drawn to fill the first two quarters thereby forcing the mercury into the third quarter. This is then forced into the highest quarter and the blood into the two middle quarters as air is allowed to fill the lower quarter. The mercury is prevented from entering the larger portion of the pipette by the presence of a porous diaphragm at the point of union of this with the capillary portion. The entire pipette up to the rubber nipple is then inserted into a thermos bottle filled with water at 37 degrees, and the time noted on a stop watch. After 150 seconds (2 1-2 minutes) or about the average normal time for clot formation, the contents of the capillary tube is expelled on a piece of filter paper. If the blood comes out as a coagulum, the clotting time is less than the 150 seconds, if not it is more and other tubes are then made to arrive at the exact time required for clot formation.

Urbantschitsch includes in his report, 55 ear cases with intracranial complications. In all of the cases of sinus thrombosis, 24 in number, the rapidity of coagulation was increased and in some markedly so, the time of coagulation ranging from 90 to 120 seconds.

The nature of the thrombus, whether occluding the vein or not or whether infected or not, seemed to have no bearing on the rapidity of the clot formation. This condition of the blood remained present for a variable length of time after the operation, in some cases as long as 3 1-2 months but eventually returned to normal in every case.

In five septic cases without thrombus formation, time of coagulation was uniformly normal. However, in three cases of brain abscess marked increase in the rapidity of coagulation was noted. The same was true in a case of carcinoma of the external ear. This goes to show that while the rapidity of clotting is always increased in cases of thrombosis it also occurs in other conditions and hence is of importance in diagnosis only as a means in excluding sinus thrombosis.

It is a conceded fact that the power of coagulation of the blood is usually in direct relation to the proportion of leucocytes present As there is usually a corresponding increase in blood plaques, many physiologists believe that the latter are responsible for the influence over blood clotting. This might account for the cases of sepsis in which, notwithstanding an increase in leucocytes, time of blood clotting was not increased.

Urbantschitsch concludes that the chemicopathological causes which lead to pyemia and which favor the formation of a thrombus, consists in a thickening of the blood, in increase in the number of blood plaques and usually the leucocytes and in an increase in the calcium salts, whereas, in sepsis there is a thinning of the blood lessening of blood plaques and only slight increase in calcium salts.

In order to determine whether therapeutic agents administered internally would influence the formation of a thrombus, Urbantschitsch made some interesting observations. His tests have shown that after the internal administration of calcium chloride or calcium lactate a prompt increase in the power of coagulation takes place in the blood while citric acid has the opposite effect lessening the power of coagulation.

Calcium lactate was administered for 5—6 days, 30 to 50 grains being given daily with marked increase in the power of coagulation. The effect was noted 3-4 hour after the administration of the first dose of the agent and was prolonged several weeks after the use of the drug. In view of this observation it has been suggested that the use of the drug should be avoided in cases of sepsis lest it might favor the development of a thrombus.

The administration of citric acid lessens the rapidity of clot formation. However, the action of the drug upon the blood is not as rapid as are the calcium salts. It was observed that 60 to 90 grains of citric acid had to be given for 3 days before the clotting time was affected, but that after this time the slowing of the clot formation was pronounced. It was also more transient in its action for it was noticed that in 2 or 3 days after the administration of the last dose of the agent, the clotting time had returned to normal.

Adolph O. Pfingst.

ORIGINAL ARTICLES.

ALCOHOL, ITS THERAPEUTIC USES AND LIMITATIONS.*

By W. F. Boggess, Louisville.

When our good friend, Dr. Anderson, the Chairman of the Section for Therapeutics had searched the State, far and wide, for some one to write a paper on the above subject, and failed in every instance to arouse any enthusiasm, even after I had kindly given him at his earnest solicitation, the names of several gentlemen who I knew, could, if they would, write such a paper as would do credit both to the writer and "writee,"—he came back to me, not with a request couched in appealing and persuasive language, such as he only could have given, but with the astounding and equally slangy statement "you are it." Being an obliging and very accommodating young man, accustomed to being ordered, nolens volens, by my superiors, here I am, and here "It" is for what It is worth.

Alcohol is unquestionably a therapeutic agent of no little value to be used as a medicine with the same care, the same safeguards around its use and abuse as with other poisonous drugs, such as morphine, cocaine, strychnine, etc. In my opinion there is no drug requiring greater acumen and therapeutic knowledge for its use than alcohol. There is no drug more abused, and less scientifically used than it. It is not the use, but the abuse of the drug that has brought it into disrepute in the profession and out of the profession.

For the proper appreciation of the therapeutic use of any drug you must, of necessity, have a clear conception of its physiological effect upon the tissues of the human body, both organically and functionally.

Small quantities of alcohol properly diluted taken into the stomach produces a sensation of warmth, a turgescence of the capillary plexus of the mucous membrane, followed quickly by a free secretion from the gastric follicles, due (1) to the increased supply of blood, and (2) the stimulation of their glandular orifices. The motility of the stomach is increased and absorption of the digestive products hastened. It is consequently in a certain type of cases a powerful stomacic and digestive stimulus if properly used. This effect upon the mucous membrane is not entirely lost by absorption of alcohol, but the presence of the alcohol in the circulation seems to have some effect upon this condition. You must observe that these effects are from small quantities of alcohol given well diluted. Its presence, however, in any considerable quantity in the stomach in concentrated form inhibits proteolysis, and acts as an irritant, and inhibits digestion. This irritation progresses and continues until a true inflammation of the mucosa is set up and chronic gastritis and gastric catarrh produced, until after using larger and larger amounts, gradually increasing amounts always being required, the natural powers of digestion become promptly and seriously impaired and finally completely lost. From the stomach alcohol is very promptly absorbed and circulates as alcohol and comes in contact with the tissue of the body and exerts its peculiar and distinctive toxic and irritative effects upon all the tissues in which it comes in direct contact.

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*Read before the Association of County Secretaries, Louisville, Thursday, October 31, 1912.

The liver being the first organ to receive the blood sufficiently charged with alcohol, is consequently first to feel its irritating effects, and to show the pathology therefrom. The pathological changes resulting from alcohol on the liver cells, organically and functionally is so well and positively known that I only mention them.

Upon the kidneys owing to the fact that the alcohol is in a much less concentrated condition as in the case of the liver, the effects both physiologically and pathologically are less marked. The increased amount of urine excreted is a natural result of the increased blood pressure from the alcohol. The diminution in urea is due to the lessening of oxidation of the nitrogenous tissues. The irritating results of the alcohol on the tissues of the kidney are exactly similar to those of the liver, but are manifestly somewhat slower.

As to the effect and influence of alcohol upon the heart and heart muscles, we have a question not yet entirely settled. Whether it has a direct irritating action upon the heart muscle itself or whether the effect upon heart and circulation is due to its action through the central nervous system is still in dispute. The peculiar interaction between the effects of alcohol on the circulation and those upon the nervous system renders it difficult to consider either without the other. In all the investigations that have been made, it seems probable that in moderate doses alcohol usually accelerates both beat rate, and velocity and amplifies the pulse.

So far as direct effect on cardiac muscle goes, that of alcohol certainly appears to be a potent temporary restorative, and while there is marked arterial dilatation after the administration of alcohol there is unquestionably sufficient effect on the heart muscle to increase the blood pressure.

Upon the nervous system the effect of alcohol is in my mind wholly depressing. Apparent stimulation results from the depression of the inhibiting and controlling centers. The weakening of the will power, and of the higher functions of coordination makes the patient have apparent manifestations of stimulation. Its action upon the brain is that of the delirifacient. A period of seeming stimulation running into excitement. This apparent stimulation is a narcotic one. The inhibition of the power of self control and restraint is what makes the patient feel stimulated. It relaxes him. In the very beginning, mental processes may be somewhat quickened, but in a little while they become slow and, are blunted, although the patient may believe and generally does believe them to be greatly improved.

Despondency and mental pain are thus decreased and the subject loses his self control and judgment and becomes talkative and to himself mentally stimulated and self asserting.

Alcohol, while never to be considered a food, yet plays its part in nutrition and metabolism, used along with food for certain specific reasons. Alcohol as a food, so called, has two purposes. It is itself oxidized and decreases tissue oxidation. This to some extent may account for the reduced temperature. It is much more easier oxidized than food products and is more rapidly oxidized under exercise, exposure to cold and fever. Only a small amount of alcohol is eliminated by the kidneys and lungs. Most of the alcohol is burned up in this way. It this does not lessen the demand for nitrogenous nutriment, but may supply to great extent the demand or need for the carbonaceous. This fact explains the accumulation of fat in alcoholic subjects.

I wish to emphasize the fact that the continued use of alcohol has a tendency to destroy fine cell structure everywhere, as well as the destruction of the finer moral and intellectual functions and faculties.

Now as to its therapeutic uses. The use of alcohol as a digestant or digestive stimulant is one of its most important ones, if attention is given to the quantity and the frequency and the method of its employment, the same care and explicit directions as we give in other poisonous drugs. A teaspoonful to a tablespoonful of whiskey, or better still, cognac brandy, well diluted taken just before meals in the old, in the feeble, and the atonic, unquestionably stimulates appetite, promotes digestion, furnishing a material for oxidation, thus saving tissue and other food products for use in the economy. To take the place of foods when food is not desired or borne, but imperatively required. It will often aid digestion and assimilation of milk, besides contributing its own portion of nutriment.

As to alcohol in fevers: Here too a great deal of therapeutic acumen and thought must be used. There are some types of fevers in which alcohol is unquestionably of benefit, and certain types of patients with whom it also could be used with benefit. The converse is equally true.

In certain septic states, and particularly in diphtheria, alcohol is a drug of wonderful efficiency. In those toxic disturbances manifested by rapid and irregular heart, occasionally by a slow heart, and sometimes accompanied by vomiting, alcohol is to be given freely and frequently repeated. There is no disease in which alcohol should be given in immensely large doses as in the toxic states of diphtheria (mention Barnes case). In a word in all septic cases, after all has been done to control local manifestations, and serotherapy, large quantities of alcoholic stimulants together with strychnia forms the basis of such a form of treatment.

In the pneumonias of infancy and childhood, one of the most valuable remedies that we have is alcohol. It has been my custom to begin early in the disease with alcoholic stimulation. I know that I have saved many lives in broncho pneumonia in children with alcohol. Twenty to thirty drops of good brandy or whiskey to an infant under a year old, and a half to one teaspoonful to a child one to five years old every two or three hours. The cognac brandy unquestionably is a type of alcohol that should be used in these cases and if anything the dosages that I have just given are understated rather than overstated. In this, as in every other administration of alcohol its abuse rather than its use calls for condemnation.

As to the use of alcohol in typhoid fever. There has been a great deal written pro and con as to the use of alcohol in typhoid fever. Some have claimed that it should be used from beginning to the end, still others claim that it is a drug that can be entirely dispensed with in the treatment of this disease. As a matter of fact none of these statements are correct. There are many cases of typhoid fever, in which if they receive in the second or third weeks of the disease sufficient quanties of alcohol to support the system by lessening tissue metamorphosis, supplying something that is easily oxidized, thus saving food products and combatting asthenia, the patients are greatly benefitted and lives are saved. The majority of typhoid fever patients will be benefitted by it. The dose of alcohol to be given in typhoid fever depends upon the feebleness of circulation and the general asthenia of the patient, and the physician should determine the quantity by observing the degree of asthenia by studying the pulse at the wrists, and by listening to the heart. A tablespoonful of good whiskey or brandy given at eight hour intervals in many cases is quite sufficient. In other cases much larger quantities than this should be given. Sometimes it is better to give a desertspoonful every four hours, rather than a tablespoonful every eight hours. Of course, in some cases very much larger doses than this are required.

Another use of alcohol in typhoid fever is that in a certain type of low delirium and insomnia, the sedative effect of alcohol is needed and is obtained, quieting the patient, lessening fever by its own oxidation, sustaining the heart.

In grave toxic conditions of all characters when the heart is suffering as we see in the so-called "typhoid state," there can be little doubt that alcohol is often a potent remedy, and as is well known, its efficacy may be tested by the simple means of watching the pulse during the first ten minutes after administration; if the pulse falls in rate and rises in pressure the drug is acting beneficially as well on the heart as on the nervous system; probably, indeed, the heart is aided indirectly through the nervous system.

The use of alcohol in heart disease. Here is a problem over which much discussion, both pro and con, has been made, yet in certain types of acute cardiac diseases, as well as chronic heart conditions, there is no question but what alcohol is a remedy when intelligently used is of great benefit. Recent investigations by Kochman, Brandini, Wood and Hoyt, and many others pretty clearly demonstrates that with proper doses there is a distinct, if not a great increase in functional activity of the heart. Owing to the dilatation of the peripheral blood vessels, the pressure within the arteries generally is not greatly altered. The effect of alcohol upon the heart is unquestionably more marked in exhausted conditions than it is upon the normal animal. So while the mechanism of the influence of alcohol in heart diseases, and in the secondary embarassments of the right heart, such as pneumonia is not clearly understood, it is always a subject as difficult as it is important.

We all know that in certain conditions of heart failure alcohol in the proper dose acts as a powerful cordial, and if you will watch its effect upon certain feeble, irregular and rapid pulse you are struck with the fact that the action, whether direct or reflex, is positive and beneficial.

I believe that on the cardiac muscle itself alcohol is a potent, temporary restorative. To quote from an article of Albutt: "Our knowledge of the physiologic effects of alcohol, as investigated by several observers—among whom I may mention Cabot, Wood, and Hoyt in America, John in Germany, Waller in England, and in our own laboratories, Rivers and Dixon—seem to be verified thus far: That in quantities of more than 2 per cent. in the blood the whole state is impaired; that in moderate doses after some minutes the output begins to increase, and so may continue for one-half to one hour; that the systolic level rises, the diastolic remaining, as a rule, constant, though it may fall, that in the periphery is widely opened, as shown by the plethismograph on the arm; that the velocity is much increased, possibly doubled; that the beat rate is usually increased, but this depends on the ratio between the mere heart work and the peripheral expansion; that the blood pressure is unaffected; that in dogs made febrile by infection the results are the same as in the normal dog; and finally—which is very important—that for some of these reasons, and also because section of the cervical cord with splanchnic vascular palsy greatly modifies the results, the peripheral expansion seems to be chiefly or wholly in the systemic area. It seems probable then that in moderate doses alcohol usually accelerates both beat rate and velocity, and amplifies the pulse; the heart, therefore does more work.

In the septic conditions alluded to under acute cardiac disease, it was said that alcohol may be used liberally, especially if the tendency to chills or rigors is evident, when it seems to act in release of the vascular constriction; there are other cases also where expansion of the cutaneous area seems desirable. Perhaps the popular prescription for a "chill" of hot spirits or wine and water at bedtime may be justifiable. Alcohol, again, is helpful in the cardiac distresses of old people, as in senile pneumonia, perhaps by arousing the nervous or psychic energies; although here, again, there is some well grounded fear of administering alcohol in doses so large or so frequent as to reduce the sensibility of the brain from the psychic areas downward to the vital centers of the bulb. Furthermore, a little alcohol is often a temporarily advantageous addition to a digitalis mixture, or a vehicle for it."

I am convinced, as I have before stated, of its use in typhoid fever that the threatened heart failure of this disease is oftentimes averted, and the patient's life saved by the proper and scientific use of alcohol. There are many authorities that could be quoted in proof of the beneficial effects of alcohol when given rightly in many of the conditions of cardiac failure, and even in certain conditions of myocarditis with a good deal of cardiac embarassment due to vaso-constriction or primary neuro-muscular affection, a little diluted brandy or whiskey is acceptable and of value.

In the myocardial cases the doses and effects must be watched closely, and the doses increased or reduced as the symptoms of the pulse indicate.

The use of alcohol in tuberculosis. In each class of diseases considered there is always a wide diversity of opinion as to the use of alcohol, and in each you must understand both the scientific and beneficial use, as well as the deleterious and harmful abuse, so here as elsewhere you find opinions at variance, and in this disease, one should exercise great discretion, carefully watching the effect.

It has been my practice for years in certain types of tubercular states to prescribe one-half ounce of brandy, well diluted t.i.d. It assists the appetite, it relieves the pain by its quieting effect, and to me, above all else, it increases the fat forming tendency by its own oxidation, and the effect it has in assisting digestion and lessening metabolism in the tissues. And in those cases running high temperature with chills, experience has shown that alcohol when properly given in small doses is of the greatest possible service. Quoting Latham: "It saves the body protein, stimulates the appetite, and in the small doses given, hastens gastric digestion. It favorably affects the night sweats and the sleeplessness. When solid food cannot be taken, alcohol is our sheet anchor. Nothing but good results from its administration, so long as the pulse is becoming slower and the appetite better, skin and tongue moister, and the pain more quieter."

In America we have many men who vigorously oppose the use of alcohol in any form or manner in tuberculosis, either as a routine measure or as a treatment of special symptoms, but if you understand the physiological effects of alcohol you can but understand that if rationally and scientifically administered it is capable of great good, so the converse is equally true.

Alcohol in Influenza. The very common and routine and liberal use of alcohol as a remedy in influenza is to be discouraged and condemned. There are so many other remedies indicated in the depressing effects and complications of this disease that are equally as good if not better than alcohol in the majority of cases. Yet alcohol in the old and in the feeble in the form of small amounts of brandy or whiskey can be given with positive advantage and benefit. While it is true that full doses of alcohol in la grippe temporarily lessens pain, quiets the patient and makes them feel comfortable, yet overstimulation probably increases the further depression of the disease as well as irritating the liver and kidneys and favoring the post grippal and toxic neuralgias. It is my habit in the influenzal cases of the old and feeble to give a tablespoonful of brandy in a hot cup of tea or coffee three or four times a day. In conjunction with thein or caffein, it acts wonderfully well in the depression and shock of grip in old people, and should be used. I am sure I have saved many lives by its proper administration in these cases.

TO SUMMARIZE.

Alcohol is a drug of considerable potency, and a medicament of great value when properly and scientifically used. Its abuse has often brought it into disrepute.

It is not a stimulant *per se*, but a sedative and narcotic with very slight stimulating effects.

It is partly a food, each gram yielding seven calories, and replaces certain types of food in its rapid and easy oxidation, and lessens metabolism, furnishing a source of heat and energy and acting as a protein sparer.

In small quantities, properly diluted, it stimulates digestion, promotes proteolysis and is a stomacic of considerable importance. It is often valuable in tiding over periods where the assimilation and digestion of ordinary foods have been so lowered as to render the use of ordinary nutrients impossible..

In certain types of asthenic fevers, alcohol is a remedy of great service if properly and rationally used.

Upon the heart and circulation it can be made an instrument for great good, but it can on the other hand be made a two-edged sword. There is no class of disease in which its use demands more rational therapeutic knowledge than in acute and chronic cardiac states.

A WORD OF WARNING.

The unscientific use of alcohol soon leads to its abuse. We physicians should be extremely careful in the administration to our patients of a medicament from which habit is so easily formed for while it is often said that the craving for stimulant and narcotic drugs is a vice of civilization, for the instinct of self preservation not only carries with it the desire and longing for life, but, also contains a desire for all that there is in life, for the fullness of it, its pleasures, its happiness, of its rest, that is not made or caused by schemes or work, but by happy pleasurable relaxation. The instinct to live life in comfort and happiness is as great as the instinct of self preservation.

In the customary use of a particular sedative, such as alcohol, the system ceases to resent its presence, and thus the initial stage of real or apparent stimulation, which seems to play a part in the action of all narcotics, is less alloyed; though on the other hand the doses must be increased, and the time arrives when the drug does little or no more than satiate the craving for its own repetition. Again after the time of excitement, and on the way to the stage of depression, a middle moment of grateful peace and irresponsibility is experienced. This blissful period, however, as nervous degradation becomes established, is encroached upon by misery as is the pause of the heart in disease.

My own opinion is that narcotics, particularly alcohol, have no element of primary stimulation in them; that from the first they arrest the function of the parts to which they attach themselves, the parts first invaded being the highest planes of nervous function. Thus released from control the functions of the lower systems take their place and necessitious man, no longer "amazed among the thorns and dangers of the world" is reduced to the light and careless livery of the child. Gradually, however, the drug, tightening its hold on the higher, penetrates to the lower planes of structure, and so perverts even the grosser viscera of the body that gaiety ends in abasement.

DISCUSSION.

W. W. Anderson, Newport: By his able treatment of this large and difficult subject Dr. Boggess has more than justified the confidence we had in assigning to him a task of such importance. Recent investigations have thrown new light upon many phases of the complicated alcohol question. The paper to which we have just listened needs no compliments at my hands. With most of it I cordially agree. I could neither emphasize its truths nor polish its vigorous style.

If I can contribute anything to the discussion of the question it must be by way of some points of difference. The paper states that alcohol in small quantities is a stimulant to buccal and gastric secretions. The same thing is true of a mouthful of tacks or a pinch of pepper and it is true in the same way; for alcohol is never a stimulant except where it acts as an irritant and it is almost as certain an irritant as the tacks or the pepper.

Nor do I agree with the essayist when he attributes to alcohol as a virtue the fact that it lessens oxidation thereby sparing food and body tissues. That it does these things is true. That they are good things to be done is not true. The oxygen we receive by breathing is intended for use in oxidation of foods, of reserve foods already stored in the body in the form of fat, glycogen, proteid, etc., and for oxidizing waste products set free in the blood by the acting cells of the tissues. By this process body heat is gradually supplied, cell energy is created and waste products are rendered innocuous and in part converted into heat and energy.

Thus a very large part of normal metabolism consists of this process of oxidation carried on in all parts of the body between the tissue cells and the circulating blood. The newly absorbed food, the stored or reserve food and the waste products all require oxidation and all have a moderate affinity for oxygen. Alcohol, however, has a vastly greater affinity for oxygen than either of them. It begins to oxidize in the mouth and continues to do so in the stomach. Such portions as are not oxidized there enter the circulation as alcohol. There it seizes upon the oxygen which is readily separated from its loose combination in oxyhemaglobin. The rapidity of its oxidation in the blood produces sudden heat when and where it is not needed and nature proceeds to get rid of it by radiation from the body surface. This explains the dilatation of surface capillaries, the flushed face and the sense of warmth that follows a dose of alcohol. The blood robbed of oxygen by the alcohol is less able to supply oxygen for normal tissue metabolism. The tissue cells cry out for their normal supply of oxygen and nature responds by the increased respiration observed after alcohol. Thus is created the paradox of increased lung respiration and diminished cell respiration at the same time.

Diminished oxidation of food and waste products necessarily follows. Gout is a disease in which there seems to be a suboxidation of proteids and waste products. Thus is reasonably explained the relation of alcohol to gout.

Carbohydrates require much oxygen to convert them into energy and heat. Less oxygen will suffice to change them into fat. Hence the alcohol drinker takes on fat instead of deriving heat and energy from his carbohydrate diet. Fat must be oxidized finally to be useful in the body economy and falling short of oxygen for this purpose the alcoholic stores up unnatural fat.

Yes, alcohol spares food and tissue by lessening oxidation as Dr. Boggess says, but it does so at the cost of hindering normal metabolism and lessening normal heat and energy. It produces the feeling and even the appearance of well-being without establishing the fact.

I can not accept his opinion as to the value of alcohol in severe asthenic conditions. There is no more marked asthenic state than that developed in poisoning by snake venom. Dr. Wilson, the greatest American authority on reptilian poisons says that alcohol in snake bite is always harmful and that its reckless use in such cases has caused more deaths than the venom it was intended to counteract.

Finally, I cannot consent to follow his advice is using alcohol as an adjunct in the treatment of typhoid fever. If I believed it useful in this disease I should be most guarded in its employment because of the ease with which the habit is established in debilitated subjects. But I do not believe it is ordinarily useful in typhoid. It has been definitely proven that alcohol in any quantity increases the permeability of the alimentary mucous membrane to germ life. The teeming pathogenic bacterial life of the digestive tract in typhoid should not be encouraged to enter the circulation. Cabot has shown that the mortality of typhoid is greatly increased when alcohol is a part of the treatment and he tested it on hundreds of cases. His results are so convincing that like Josh Billings "I never argys aginst a sertinty."

W. E. Senour, Bellevue: The thoughts so beautifully expressed by the essayist are exceedingly valuable, coming as they do from one who has had a large experience, but in spite of that fact, there exists great difference of opinion on this question. The theory that alcohol is a stimulant, a tonic, a food, and a safe beverage when taken in small quantities is fallacious, and has no support in the modern scientific studies of to-day. It has been proven by laboratory experiments both at home and abroad that it is a narcotic, a poison, and a depressant in its final and ultimate effects.

It is a depressant to all cell life, as it prevents the cell from absorbing oxygen. Repeated experiments have shown that 5 per cent. solution of alcohol is fatal to the cell of both plant and animal It is not a tonic as it lessens the working power of the individual, hence its abandonment by the world's armies. Our most eminent physiologist have studied the effects of alcohol upon the human body with great exactness and all conclude, that in no sense does alcohol give new force or generate new power in the body.

It is not a food, because the use of food is followed by no reaction; while the use of alcohol is. The use of food is followed by increased activity of brain and muscle cell, the use of alcohol by decreased activity of both. The use of food is followed by a rise in body temperature, alcohol by a fall. The use of food strengthens and stimulates the muscles, alcohol weakens and depresses them. The use of food makes the brain more active and accurate, alcohol less active and less accurate. Lastly, alcohol never has, nor never will increase the physical or intellectual power of man. There is no clinical fact that is observed more frequently by both internist and surgeon, than the marked tendency of alcohol to lower tissue resistance in all parts of the body. The treatment of fevers and local inflammations, and particularly all kinds of surgical operations is far more difficult, grave and uncertain, where the patient is an alcoholic.

In the treatment of pneumonia and tuberculosis, I wish to take issue with the essayist. In support of my position permit me to quote from the records of one of the general hospitals of Massachusetts, whose records show that of 2,000 cases of pneumonia, half treated with alcohol and half without the mortality of those treated with it was 31 per cent., while the mortality of those treated without was 19 per cent. What I ask can be more convincing? Its effects in the treatment of tuberculosis taken from the same records, shows that there were 1,000 cases treated; 500 cases treated with alcohol gave a mortality of 41 per cent higher than those treated without. What would be your conclusion?

To my mind the one question that concerns the medical profession most is as to whether it is a safe beverage when taken in small quantities. I believe it is the duty of every doctor in this State, before attempting to answer this question, to study the alcohol problem at the bar of scientific analysis, irrespective of theories, opinions or conclusions of the past. Having obtained the facts, they should be utilized for the enlightenment of the public. For only in this way may we hope to correct the false notions and stupid delusions that exist among the laymen, concerning its effects.

J. R. Morrison, Louisville: I think we owe Dr. Boggess our thanks for giving this Society such a sane paper on the subject of the use of alcohol and its limitations, for as Clifford Allbutt has so well said, the general discussion on alcohol is largely rhetorical rather than scientific, and I am sure Dr. Boggess has shown you, as far as it is possible for him to do so through his investigations, the scientific side of the subject. I believe alcohol is not a food in the broad sense of the word. It is not a food as every one knows. The carbohydrates and fats will take its place at all times if they can be absorbed and digested. Alcohol acts as a food in a secondary way. It is a great food sparer. It spares the carbohydrates and it spares the fats. I am of the opinion that alcohol is rather a narcotic than a stimulant, and I have considered it so. Oftentimes when one is overwrought, tired, he needs a narcotic. We forget the point that alcohol taken to the point of forgetfulness, to the stage of inebriety, is deleterious. But the fact is it is a narcotic if not given in moderate doses. This does not mean it should not be given in doses sufficiently large to quiet the system. It has a secondary effect in typhoid fever and blood poisoning.

As regards the use of alcohol in typhoid fever, I remember, when I started to study medicine and attended the hospitals here in Louisville, at that time I saw as many patients with typhoid fever drunk as are now underfed, and the fact that we are now giving foods and carbohydrates that are digestible is one reason patients are not underfed now as they were in those days. Alcohol itself does produce an effect. I know one delicate woman who was unable to take food, she would not take it, as it was an impossibility for her to do so any way, yet alcohol given to her in doses of 6 or 8 or 10 ounces a day as a food created an appetite for food, and as soon as she began to take regular food the alcohol was withdrawn.

As regards alcohol in heart disease, it is not of much value in many instances in my estimation. I believe the Nauheim treatment in these cases has a much better eect.

I wish to thank Dr. Boggess for the paper he has read.

Virgil E. Simpson, Louisville: I shall confine my remarks to two phases of this subject—the influence of alcohol on metabolism and its action as an antiseptic agent.

As has been said, sentiment has been written largely into the history of alcohol from every view point. The tendency is to judge of the effects of alcohol from its over-indulgence and abuse rather than from the effects it produces under careful, scientific administration as we accord opium, cocaine, strychnia and other drugs having a potentiality for both good and harm.

Alcohol is a derivative of the methane series. It possesses, in common with most of the members of this group, an affinity for nerve cells, due, largely, to the cholesterin and lechithin content. This is but a partial explanation of alcohol action, however, since the benzol derivatives are possessed of the same physical properties and yet, are devoid of much of alcohol action. Both penetrate the nerve cells on account of their solubility in the liquids but act differently after coming in intimate contact with the cell constituents.

It is a matter of common observation that an increase in weight follows the judicious use of alcohol. The explanation of this phenomenon is interesting and establishes the truth of the mooted question—"Is Alcohol a food?" Less than five per cent of the alcohol ingested is eliminated. (I refer here to proper dosage), the remainder undergoes combustion. In the process of oxidation, energy is supplied for cellular activity, as is the case with all carbohydrates. The energy required for its own absorption and combustion is much less than that yielded to the body by the process. This must be true of any material if it is to be considered technically a food and it is certainly no less true of alcohol than any other food. That alcohol meets this acid test is evidenced by the fact that the carbonic acid output for twenty-four hours is not appreciably modified by alcohol administration. Hence, alcohol is either transformed into tissue or is oxidized in place of some of the less easily converted articles of the diet, they, in turn being stored up as fat.

Alcohol will take the place, in a diet, of both fats and carbohydrates to a large extent. When insufficient fat or carbohydrates are supplied the body, the proteid must make up the deficiency and the nitrogenous elimination becomes greater; conversely, an excess of fats, sugars and starches saves the proteins and the nitrogenous elimination becomes less.

As has been referred to by one of the speakers, this method is the most accurate one for determining food values. When a scientifically balanced diet is given for a few days the nitrogen eliminated equals the amount taken in with the food, or, in other words, a nitrogenous equilibrium is established; cut down the fats and the nitrogen elimination rises; add alcohol, in chemically equivalent caloric value to the fat withheld, and the nitrogen elimination returns to the normal. When the original amount of fat is given plus the alcohol, the elimination of nitrogen falls below the normal. In other words, alcohol can take the place of some fat in the diet as shown by the saving of the protein.

The same is true of its power to replace sugars and starches in the diet. These experiments have been done by Rosemann, Atwater and half a score of other competent men, who have conscientiously, dispassionately and scientifically established their truth.

Just a word as to the antiseptic action of alcohol.

It has been shown conclusively, that in solutions of less than 5 per cent many bacteria will retain their activity. In 99 per cent. alcohol many germs will surive as long as twenty-four hours. This is especially true if the bacteria are dry, as the alcohol seems unable to penetrate cellular structure save in the presence of water. Its greatest effectiveness as an antiseptic is obtained in solutions from 60 to 70 per cent. and it should be remembered that moisture is an essential.

W. F. Boggess, Louisville, (Closing the Discussion): The discussion of Dr. Morrison and Dr. Simpson voiced my sentiments and expressed by conclusions as intended in my paper. Most of you know my position on the abuse of alcohol. I do wish to impress the idea that if we could eliminate the use of alcohol absolutely, except as a medicament and upon the prescription of physicians, I personally would be most happy. If there was one thing I wished to call special attention to in my paper, it was that alcohol should not be considered a stimulant, for it is in no sense such. It is a sedative, and by its sedative effects the individual gets down off his high plane, and feels better, which he terms stimulation, but is simply sedation. And again that it should not be considered a food per se, but that it has a positive effect in small doses, well diluted, upon digestion, and owing to its rapid oxidation it unquestionably has certain influences upon metabolism, and is consequently a protein sparer and a preservative of waste. As a food it furnishes unquestionably positive heat units. One gram of alcohol will furnish 7 to 10 calories, and consequently I desire to impress in my paper that in certain conditions where solid food cannot be taken, and could not be assimilated, and not be oxidized, alcohol will take the place of food temporarily, and will save tissue destruction. Another thing I wished to impress was that alcohol is a poisonous drug, capable of destroying tissue, capable of producing pathology if abused and that it was its abuse that should be condemned, and not its scientific and rational use. I think the profession makes too much of it as a stimulant, and relies upon it in diseased conditions for stimulating properties which it does not possess, and that the irrational and unscientific use of alcohol is capable of doing harm rather than good. Another thing I wish to impress upon you and warn you against is its indiscriminate use and recommendation in la grippe, for in this condition it is used and prescribed so freely that many of the profession look upon it as a specific for influenza, where it is capable of doing hurt. It does not play any part at all in the treatment and relief of conditions of influenza, except in those febrile states with poor appetites in old people. Here it can be used with positive benefit if used rationally.

I appreciate very much the courtesy shown me by Dr. Anderson and his Committee in asking me to read this paper. In it I have tried to give you a paper entirely free from sentiment and prejudice, and called your attention to the scientific facts as we see them and understand them to-day. With this end in view, and with this purpose I have devoted a good deal of thought and study to the subject, obtaining data from my personal experience, and from the latest scientific findings with the hope that the question of alcohol could be put on a pure scientific basis. I thank you.

GENERAL THERAPEUTICS OF DISEASES OF INFANCY AND CHILDHOOD.*

By B. J. O'Connor, Louisville.

The tremendous importance of the proper recognition and the prompt treatment of the diseases of early life is more than sufficient apology for the presentation of a subject of such a vast scope as that which your Program Committee has requested me to introduce for discussion. Its magnitude prevents consideration of the unusual and rare forms of disease.

According to the data gathered by the Bureau of Vital Statistics of this Commonwealth, the total number of deaths in our State during the past year was 30,583. Of this number 5,230 were infants, and 2,701 were children between the ages of one and five years. Almost 26% of the total deaths occurred during the first five years of life. Comparing the number of infant deaths to the number of births during the same period we find that almost thirteen infants of every hundred born did not survive the first year. Kentucky is not alone in such a dreadful infant mortality. The statistics are practically common to every state in the Union. When the gravity of such a horrible and needless mortality sinks into the gray matter of the medical profession and the laity, the most indolent and apathetic should be sufficiently aroused to inquire into the circumstances and causes. If the lives of even one hundred children were suddenly destroyed by some catastrophe all manner of provisions would be made to prevent the repetition of such a horror. Month in and month out, we may reasonably expect a mortality of not only one hundred children, but over four hundred unless some radical steps are taken to protect the new born.

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*Read before the Association of County Secretaries, Louisville, Thursday, October 31, 1912.

Do not misconstrue my presentation of such statistics as reflecting upon the therapeutic lore of the medical profession of this State. The factors which are of the greatest moment are only indirectly subject to any control by our profession. Poverty, heredity, ignorance, carelessness and sociological conditions which we cannot remedy explain approximately ninety per cent of this mortality. We can, and should, however, direct the attention of those who are at the helm of the State to the control of the important causes; with but little effort we can educate our clientele and the general public in measures which will lessen both the mortality and morbidity of early life. As physicians we are fully cognizant of the fact, that the mortality of early years is almost as important as its mortality, for many of the diseases of childhood not only cripple and deform, but make a favorable soil for the serious diseases of adolescence. Time does not permit us to delve deeply into this phase of the subject, but we trust that this great society shall take some definite steps toward the reduction of the excessive infant mortality.

No less an authority than Jacobi holds that almost one-fifth of the infantile mortality is due to congenital trouble. Observations by numerons authorities show that the children of overworked, underfed and neglected women are from ten to twenty-per cent. under the average in size and weight. To lessen infantile mortality we must endeavor to place the mother in first class health. Diseases such as syphilis, gonorrhea, tuberculosis, insanity, physical and mental degeneracy in parents render them unfit to pregnate. Nor must we look alone to the poor, the overworked, the ordinary defective—the prolifigacy of the wealthy, the idleness and ennervating habits of the well-to-do contribute no small share to the lack of resistance and actual disease in both parents and children. Unquestionably many of the serious and fatal diseases of early life are due to obstetrical shortcomings. Death, invalidism, blindness, and other forms of physical and mental embarrassment are due to a lack of proper attention in the delivery of the child. The dangerous consequences of prolonged asphyxia during and after birth is held to be one of the main causes of troubles of this kind.

Modern therapy is largely, if not exclusively, a casual therapy. The physician of to-day to do himself and his patients full justice must deal with the causes, rather than the effects of disease. Of the two prerequisites for a successful practitioner, the thorough appreciation of disease, and secondly, a knowledge of the exciting and contributing causes, the latter is probably the most important. In Pediatrics the mere knowledge of drugs is but a trivial portion of his ability. Hygiene, sanitation, dietetics, and preventive medicine are the indispensable attributes. As many of the abnormalities of childhood are mechanical in their origin he should also possess a good knowledge of the mechanical measures necessary for relief.

In infancy and childhood the objective symptoms play so important a role in the diagnosis that unusually highly developed powers of observation and reasoning come into play. Your inquiries into the past and present history of your little patients can not be too minute, nor systematically conducted. No portion of the body should escape a discerning eye, finger or ear; the secretions and excretions must be carefully studied; the temperature, the pulse, and the weight curve must be duly considered. No mere symptom, no matter what its nature, should be treated or prescribed for until the true status of the underlying disease or abnormality is understood. Your instructions in regard to treatment must include, not only those pertaining to drugs, but special emphasis must be laid upon diet, habits, bathing, and the surroundings Your treatment should be such that complications or extensions of the disease shall be reduced to a minimum. You must look also to the rights of others, and prevent a spread of the disease if it be infectious or contagious. The key note and guiding point for the majority of your directions must necessarily be founded and based upon the cause.

The vital demands of infant life while simple, cannot be disregarded nor slighted. After birth the two imperative requisites of the new born are, food and air. Before the accoucheur departs from the bedside he should see that full and easy respiration is maintained by the infant and should instruct the attendants to place no obstruction to the child's breathing. The more fresh air that an infant receives, the better it thrives. It invariably sleeps better out of doors and in well-ventilated rooms. As early as the weather permits it should be taken out of doors daily. The rapid loss of fluid from the body by evaporation from the lungs, and through the excretory organs must be counteracted by supplying the infant with water until the supply of milk is ample. Just as early as the mother is sufficiently rested put the child to the breast. Its sucking is nature's galactogogue. No artificial food, no matter how scientifically prepared, or how scrutinously guarded can in the long run show the same results as mother's milk in fortifying and developing the new born. The mortality of infants exclusively breast fed is approximately 7%, those partially breast fed and partially artificially fed 10%; on artificial food alone is 20%. If we, as physicians, would devote just one-half as much time to encouraging mothers in the ability to nurse their children as we are doing in the study of artificial feeding the human race would be stronger and healthier and the grave yards would not be filled with human beings who were not even given an opportunity to live. The fictitious calls of modern society must be entirely forgotten by the rational parent. The needy mother, laboring under the necessity of daily toil to supply herself and family with the necessities of life should be looked after and provided for by the State until such time as the life of its future citizen is not endangered. Particularly essential to the survival of the child is breast feeding during the first few months of life. Breast feeding is not only possible but practicable for almost every mother, and as conscientious physicians we owe it to the infants to see that they are kept on the breast over a sufficient period of time. Notwithstanding all the merits, boasts and claims of the many artificial infant foods the world would probably be better off physically if we banished and did away with them.

No cause is so fruitful in its demands for the attention of a physician to the infant as diseased conditions resulting from improper feeding. Too frequently parents take up the responsibilities of artificial feeding without medical advice; and, oftentimes when the physician is consulted, his instructions are not sufficiently emphasized, nor given in sufficient detail to obviate many mistakes and errors. There can be no question but that good cow's milk, suitably modified and properly handled is the best substitute for the breast. Manufactured foods although easier to prepare and answering for a certain length of time do not fulfill all the requirements of the infant. The use of manufactured foods to modify cow's milk is of course not meant by the foregoing statement. Rigid percentage modification of cow's milk are impracticable in the vast majority of instances, and certainly are not as essential as other matters—such as the purity of the milk, the correct handling and administration of the food, and a close observation of its effects. Too much study and attention cannot be given to the food and growth of an artificially fed infant.

The interval between readings for an artificially fed child must always be longer, than for one at the breast, and unless the amount of food given is very small, a three to four hour interval, even in the first month, is better than one of two hours. The artificially fed child is more likely to cry and suffer from indigestion, constipation and an overloaded stomach than from hunger. The proteid elements of artificial foods seldom cause trouble, but an intolerance to excessive fats and carbohydrates may readily occur and give rise to symptoms which if not promptly heeded soon become typical of grave intoxication, and if still disregarded, will cause death. The occurrence of fever, vomiting, diarrhoea, and serious prostration as result of an intolerance to excessive amounts of carbohydrates is accepted by every pediatrician of to-day. It is not always a simple matter to differentiate between an infectious gastro-enteritis, and one due strictly to alimentary disturbances. Dysenteric and streptococcic infections unquestionably occur in epidemics and are frequent enough, but too many cases of gastro-enteritis due to excesses of sugars are completely overlooked. If recognized early their relief is so simple that the therapeutic problem is nil, but when not timely diagnosed the most skillful may not be able to stem the tide of danger. For the vomiting and diarrhoea a simple cleansing of the bowels by mild purgatives and enemata followed by an almost carbohydrate free diet for two or three days will correct the disturbance. Plain water, teas, sweetened with saccharin, barley water, oat meal water, or whey will answer until the symptoms subside, when small amounts of skim milk and sugars may be gradually increased. The form of sugar best adapted to infant feeding is lactose, or milk sugar. Maltose is possibly equally as good. Cane sugar, saccharose, should never be given before the fourth month. In my personal experience the use of condensed milk is one of the most frequent sources of gastro-enteritis and due to an intolerance of sugars.

If the infant's weight curve does not progress normally the conclusion is often drawn that the child is being under fed. Anomylous as it may seem overfeeding, while at first favoring an increase in weight, will ultimately result in a cessation of the normal progressive gain. An excess of fats often leads to impaired appetite, indigestion, and usually constipation, with pasty stools. Skim milk is not entirely free of fats, hence in using simple gravity as a basis for the percentage modification of cow's milk it is easy to make the mistake of having too much fat. Pasteurization of milk indefinitely continued may lead to digestive disturbances and possible rickets. It is advisable to supplement the use of Pasteurized milk with a few drops to a teaspoonful of orange juice daily. Partial peptonization of milk, while suitable for periods of gastric disturbances will, if continued too long, in turn interfere with digestion and assimilation. Exclusive milk feeding after the sixth or seventh month is not rational. Fresh fruit juices, strained vegetable soup, malt soup, animal broths, crackers, stale or toasted bread and Zwieback should be allowed as early as salivation and dentition permit. In the etiology of gastro-intestinal disturbances about the period of dentition no more important matter could be taken up by this society, than an active campaign to banish the apparently inborn, but fallacious, belief of the laity, that all diseases of this period are due to teething. The dangers of the second summer is another matter which we trust will soon be looked on as a relic of the dark ages in medicine. The drug therapy of gastro-intestinal diseases plays but such a minor role that no detail consideration is necessary. Bismuth and tannin preparations are possibly of some benefit. The infant anodyne, either in the form of the time-honored paregoric, or the codeine bromide pills, are valuable only when the stools are very watery and there is danger of dehydration of the tissues. Ordinary castor oil and an enema of soapsuds act more efficaciously and with more permanent results. If the vomiting and purging is marked, the drip method of saline infusion or its subcutaneous introduction may be imperative. As cardiac stimulants salines and the external application of heat should always precede drugs such as adrenalin, camphor in oil, caffeine, or alcohol.

DISEASES OF RESPIRATORY TRACT.

Next in frequency and often of greater danger are the disease of the respiratory tract. The younger the infant, the less resistance and physical vitality it possesses, the more fatal are these disease. Here too much can not be done in prevention. Build up your weaklings, and scrupulously guard them against the house epidemics of colds, tonsillitis, and other affections of the respiratory organs. The transmission of such diseases is akin to that of pulmonary tuberculosis, their contagiousness being, however, more marked, and every reasonable prophylactic precaution should be observed. Rid your patients of the carbolic acid fumigation nonsense and make them safe-guard their sneezing, coughing, and infected linen in the form of handkerchiefs, towels, bedding, etc. Remember that one of the indispensible demands of an infant is air, and when any affection embarrassing respiration occurs this need is particularly accentuated. Fresh air means as much, if not more to the sick child than possibly all the drugs in our materia medica. In your arrangements for the supply of fresh air see that the child's breathing is not impeded by the clothing, and that the nasal passages are open. Cailes' simple suggestion as to cleansing and opening the nasal passages by drugs introduced with a medicine dropper is extremely important—it not only permits free breathing, but probably prevents otitis media and other complications. Rational feeding is essential. Unless the fever is very high, when a more liquid and easier diet is advisable, no great changes are necessary. Prolonged disturbances of febrile nature often renders the use of a minim or two of dilute hydrochloric acid in sugar water, lemonade or orange juice advisable. In chronic pulmonary diseases, a change of the surroundings, bathing, massage, and sanitoria life possess valuable features which should not be overlooked.

The pharmacotherapy of respiratory diseases is held by many pediatricians to exert very little effect upon the course of the disease. With this view we are not in accord. We do feel, however, that unless great discretion and watchfulness is employed in the administration of drugs that injury rather than benefit results. Our constant motto should be the old Latin injunction, "*primum ne noceas.*" Depressants, emetics, elaborate mixtures and opiates cannot be too forcibly discountenanced—but supportives, stimulants, and corrective agents may result in saving many a little victim. It is usually advisable to explain the effect of certain medicines to the attendant, in order to guard against overdosage or detriment—since no matter how simple a drug is used it may be potent of harm. While any of the drugs employed for adults may be utilized, greater simplicity is advisable for children. As expectorants the aromatic spirits of ammonia, the nitrous spirits of ether, and hot drinks are stimulating and efficient; if the catarrhal exudate is marked belladonna and aconite may be given to the physiological effects, both are sedatives, and the former a splendid circulatory stimulant. Impairment of the circulation may necessitate alcohol, camphor, caffeine, or digitalis, but such drugs must not be pushed to decidedly toxic manifestation. The value of quinine as a curative agent in these diseases is somewhat questionable. Your essayist is firmly convinced that hexamethylentetramin is of decidedly more curative value. Stimulating applications, such as camphorated oil, camphor or methyl salicylate petrox, or other rubefacients, to the chest can certainly do no harm, and at times seem to be of material assistance in rendering the patient comfortable and satisfying the attendants. In diseases of the respiratory tract the patient should be watched closely for effusions into the pleural cavity. The aspirating needle should be used early to differentiate between sero-fibrinous and purulent exudates, since the latter is neglected almost invariably prove fatal.

INFECTIOUS DISEASES.

The exanthematous infections are typically children's diseases. Fortunately the ignorant view that such diseases are more or less desirable in childhood is being banished. The severity and fatality of measles make it such a serious disease that amply justifies more attention than it has received. No great progress has apparently been made in its management, and with the present apathy and indifference of the public still less has been done in its prevention. Scarlet fever is of recent years a disease of possibly less significance than measles. The two medicinal agents which we feel meet almost all of the indications of both diseases are the oil of eucalyptus used freely externally and hexamethylentetramin internally—the latter unquestionably prevents nephritis and otitis—the two most dangerous complications of the disease. The former plays an important role in the prophylaxis of the disease.

Epidemic meningitis when promptly diagnosed and treated by intraspinal injections of antimeningococcic serum is far more likely to end in perfect convalescence than as formerly in death. As in diphtheria the early use of the serum and the early diagnosis is the *sine qua non*. Typhoidal infections in children are amenable to the modern therapy of the disease as employed for adults. Malarial and syphilitic infections are controllable by specifics which are too well known to necessitate mentioning.

The frequency of acute and severe febrile disturbances in female children due to a pyelitis or infection of the urinary organs is often overlooked. The standard urinary antiseptics usually suffice. In chronic cases appropriate vaccines are of great use. In gonorrheal vulvo-vaginitis the use of vaccines unquestionably shortens the convalescence. Other chronic or sub-acute infections in childhood due to pyogenic organisms also yield to the influence of appropriate vaccine therapy.

MECHANICAL OR PHYSICAL MEASURES OF TREATMENT.

In concluding this superficial review of the treatment of the important diseases of childhood, we feel it advisable to call attention to a few of the many, simple, mechanical or physical methods of treatment which may be of greatest value. Early and prolonged localized rest by plaster of Paris bandages or fixation apparatus in the treatment of tubercular bone or joint disease means much toward the prompt and perfect recovery. Limitation of motion in injured or inflamed tissues is almost as important as any medicinal agent as can be employed. Adhesive plaster used from the moment of birth in the treatment of harelip and cleft palate is of great importance in lessening operative procedures.

The indications for complete and possibly prolonged rest in bed are many—acute and chronic febrile conditions, painful affections, exhaustion, anemia, and circulatory weaknesses are the most prominent. Complete rest lessens heat production, and if combined with sufficient bodily protection combats undue heat dissipation. Massage, passive movements, hydrotherapy in various forms can be made to profoundly influence the metabolism, elimination, and functional activity of all the organs. Courses of physical training or graduated gymnastic exercises may do wonders in preventing deformities, weakness and abnormalities which would otherwise seriously impair the longevity, resistance, and happiness of the little patient.

Lavage of the stomach is occasionally indicated in children, but is of little significance in comparison to the value of proctoclysis and enemata of various kinds. Constipation, convulsions, of intestinal origin, anuria, loss of body fluids, circulatory depression, febrile states, intestinal disorders and even systemic diseases may be markedly influenced by variations in character of the enema and the method of its introduction. In extreme cases the lower bowel may be utilized for the introduction of food.

Surgical procedures are borne as well in early life as later, hence indications for surgical interference should be promptly met. The simpler and quicker the operation, the less would be the risk. The youngster needs more protection against the loss of body heat and fluids than the adult. On the other hand the processes of repair and recovery are more active in infancy and early childhood than in subsequent years.

In early life the action of many remedies is not entirely clear—the influences which restore the functions to normal are often so imperceptible as to be entirely unrecognizable. For instance, a change of surroundings from the city to the country, the sea shore, or a sanatorium, including as it does, many radical changes in the habits, the physical and psychical conditions may mean everything to your little patients with chronic and refractory diseases. As a parting injunction let me appeal for a prompt diagnosis, an optimistic and rational course of therapy, and a greater effort to prevent the unnecessary spread of the diseases of infancy and childhood.

DISCUSSION.

T. A. Frazier, Marion: I do not think I have heard two papers for years in a medical association that were of any more importance than the papers of Drs. O'Connor and Barbour. Dr. O'Connor's paper especially appealed to me in a few words. Fresh air and water for the infant are two things that are more neglected than anything else in the management of the infant. The baby must necessarily have fresh air if it would thrive. It must necessarily have plenty of fluid if it thrives, and when we give the baby plenty of water, it prevents it from taking more food into its little stomach than it is able to digest, and a splendid plan, one I adopted some years ago, is to give the baby a few spoonfuls of sterile water before nursing, partially fill the little stomach with sterile water, then the child will not nurse more than it can digest.

The food in these cases of diarrhoea is very important. My plan in all diarrheal troubles in infants is to withdraw the food for twenty-four hours. I give them large quantities of sterile water. Castor oil, if it can be retained upon the stomach, is the best of all simple purges. If the stomach is so irritable that it will not retain a purgative, I give an enema of normal saline solution and have often found in my experience the child would cease vomiting in a short time after giving a normal saline enema and would retain the castor oil or other purgatives. I prefer, if the tongue is coated and inclined to be dry, small doses of dry calomel placed well back on the tongue. Let the child swallow it, as it becomes moist with the saliva, it will at once stimulate the secretion of the buccal mucous membrane, and will gradually trickle down the child's throat and in that way will often be retained when otherwise it would not be retained. But back to the question of fresh air. I want to impress with all the force that is in me the importance of giving the child plenty of fresh air, and I have these little patients, if it is in warm weather, if the weather is such we can get them out of doors, taken out of doors, kept there day and night, and it has been a great gratification to me to see how these little fellows would improve when they get plenty of fresh air, plenty of sterile water, and the food was withdrawn long enough for elimination to take place.

Wm. Henry Coleman, Louisville: There are three things which I wish to mention, especially important in our endeavor to prevent such great infant mortality

First—Diagnosis. In the treatment of children's diseases I believe a positive diagnosis should be arrived at just as early as possible. To my mind it is positively criminal to dilly-dally along treating symptoms of a sick child, until the doctor knows what is causing them. The little fellow can not ask for a diagnosis of his case upon the doctor's first visit, the mother neglects to ask, and I fear the doctor even fails to satisfy himself; whether from customary negligence or from lack of interest and responsibility in the treatment of infants, I do not know. Take an infant four weeks old, losing flesh, peevish and having a diarrhoea. What's the diagnosis? Over-feeding, under-feeding, poor hygiene, or is the mother's milk deficient or excessive in fats or proteids. Then I believe we should insist upon the mother being positive of a diagnosis before she treats long her own child—for how many do we lose because the child is brought too late for treatment, when a simple diarrhoea or sore throat is about to be followed by a fatal meningeal or other complication.

Second—The Judgment of the Man Who Handles the Case. The special fitness by nature of preparation of the one who treats children's diseases will determine the outcome. No where in medicine or surgery is it truer that each case of infant disease should be treated as an individual case. Following no authority nor group of authorities, no drug nor group of drugs, we should apply our best judgment and skill to each case at hand.

Third. And possibly the most important factor in bringing about a reduced infant mortality will be by educating the mothers. Educate them as to what and how they shall feed the infant, and how far they shall proceed to treat the sick child upon an uncertain diagnosis. I do not know how this will be done—possibly written instructions in the hands of every young mother would aid. At any rate as long as weiners, sausage, fried ham, and unripe bananas are fed to the child under two years, infant mortality will continue high.

Hugh D. Rodman, Bardstown: I enjoyed Dr. Barbour's paper very much. It is a most excellent paper. It has been to me well worth my entire time spent in attending this meeting. I want to ask Dr. Barbour one or two questions. One is his opinion of the administration of opium to a child under two years of age. The second is the best means of stimulating digestion and assimulation, after the patient is convalescing. After we have gotten the intestinal trouble under control. The frequency and character of the stools are about normal, with a normal temperature. Functions are all about normal, yet the patient won't build up. I went home yesterday, and returned last evening to see a child of this kind, in order that I might not neglect a patient which seems to be doing well but won't take on flesh or gain strength. I shall be glad to have Dr. Barbour tell us what to do in just such cases, as they are perplexing.

J. G. Owsley, Lily: I am very sorry I missed hearing Dr. Barbour's paper, for my success in treating infants is largely due to the instruction that I receive from his lectures.

What one of the doctors said in regard to the mother being educated is among the most important things we have before us. As many of you have observed, very often the mother will lay the foundation for a great many of these troubles before the child is twelve hours old. There are many mothers who, soon after the child is born, want cream and sugar, and these things lay the foundation for these troubles in the children. Mothers ought to be educated in this matter ,so that I think it behooves every doctor who attempts to educate mothers to lecture to them how to care for the feeding of these infants.

W .W. Anderson, Newport: In our experience in the city of Newport there has been a great decrease in 20 years in the amount of our business as physicians in caring for babies or young children. There are not so many cases to attend, and it is not because we are such good doctors, but it is because we have not had a chance. It is because of three things. Now, as compared with twenty years ago, there has been a vast increase in refrigeration facilities. The people take ice; they take better care of their food. Nearly all houses have fly screens to keep flies out; and we have a complete sewerage system, and not an open sewerage system, from which source come many of the infections in infancy and childhood, and we doctors in our community cannot find any other important reasons for this great decrease in this line of service and mortality. These conditions, which can be secured in our cities, can likewise be secured in towns. Even the ignorant mother wants to save her baby if you will tell her how to do it.

J. R. Morrison, Louisville: With reference to the prevention of infant mortality and the importance of educating the mother and family, which was alluded to by Dr. Coleman, I will say that at the International Congress of Hygiene and Demography, held at Washington in September, which I attended, I heard considerable discussion along this line. In the discussion at Washington the importance of educating the mother in the line of proper feeding and not so much attention to absolute cleanliness, was brought out very forcibly. It is very essential to have clean milk, but ideal cleanliness is to be set aside to a certain extent and more attention paid to formalae of feeding. You must have the right period or the right age, but the minutiae or formulae must be set aside in favor of the education of the mother as to the time of feeding, the quantity of food, and the general improvement of sanitary conditions about the child.

P. F. Barbour, Louisville: I will answer briefly the two questions that have been asked, the first in regard to the use of opium. When a child is having a stool of bloody mucus every five or ten minutes, a little opium will enable the child to rest and prove a great help, and just that little opium will not be deleterious. Adults tell us of the great exhaustion and weakness that comes with these frequent straining movements. Some rest will prove a great relief and this can be accomplished by the administration of opium preferably by an enema. One or two drops of laudanum in a small amount of starch or barley water given by enema seems to reach that spot in the rectum which proctologists tell us gives rise to the sensation of desire for a stool. Sometimes the same thing can be accomplished by the use of suppositories of opium and belladonna. If one realizes that opium is always an evil, though sometimes a necessary one, you will be able to meet the condition intelligently.

In case of true cholera infantum the indication is different, here the loss of liquid is so great that there is not enough fluidity left in the blood to continue the circulation; there is absolute suppression of urine, showing the need of liquid. It is not a question of eliminating the toxin from the bowel so much as keeping the child alive until nature can remove the toxin; and, this as a rule requires only a few hours. If the loss of liquid is too great the result is comparable to a marked hemorrhage. Some of the loss of liquid can be combated by enteroclysis or hypodermoclysis, but in the mean time a hypodermic of morphine and atropine will prevent such loss of liquid and will steady the child until nature comes to the relief.

Feeding a child after it has passed through an attack of bowel disorder is always a trying experience. It is not well to begin with milk too soon lest we produce another attack of diarrhea. Nutrition is difficult at best because the very cells of the villi, whose function is to absorb food, are diseased; therefore, osmosis cannot take place. The food must be the most easily digested possible and time must be given because nature responds only slowly under these conditions. Small doses of bitter tonics with fresh air and sunshine will prove helpful.

In the discussion of Dr. O'Connor's paper, I would like to give as my own personal experience in the treatment of respiratory troubles, pneumonias and bronchial pneumonia that the alkaloids properly administered will be found a most valuable relief.

Motor Neuroses of the Colon.—Sniger and Holzknecht give the roentgenoscopic findings in a number of cases of spastic constipation and call attention to other objective findings in this condition. Such patients generally have a retracted abdomen with occasional protruding loops of intestine, especially at the sigmoid flexure, contraction of the sphincters, which close tight on the palpating finger, difficulty in introducing a sound into the rectum, and fragmented stool, which may be normal, constipated or diarrheic, with or without mucus or blood. Massage, exercise and electricity increase the disturbance, while belladonna, atropin, opium, warmth, relief from anxiety and sedatives generally relieve. Small doses given by the rectum are peculiarly efficient, as also mechanical dilatation of the lower bowel. Roentgenoscopy shows an alterating contraction and dilatation in the colon, atony at certain parts, and excessive motility of the upper third of the large intestine. The bismuth suspension is passed along so rapidly that it may reach the rectum in six hours; normally, in this period it reaches only the hepatic flexure at most.

THE DIFFERENCE BETWEEN THE THERAPEUTIST AND THE "MASTER HAND" OF THE SURGEON.*

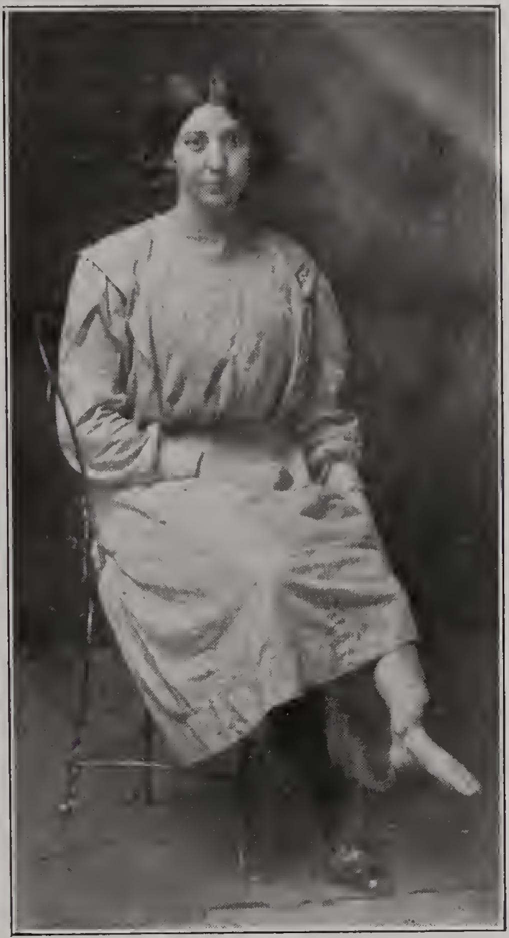
By M. C. Kash, Salyersville.

The medical profession of to-day is fully alive to its duties and responsibilities. Medicine of to-day is thoroughly scientific in its methods, employing the same means of experimental investigations and demonstrations as are employed by other exact sciences. The medical profession not only is doing its duty to the public, alleviating suffering, restoring health to thousands of men, women and children, making them the recipients of active and useful lives, but are making progress from year to year; they are making new discoveries in chemistry, dealing with larger problems, increasing the average duration of human life, improving sanitation, etc. In short, they deal now not only with individual, but with national problems. Still the therapeutist must confess that when he gives the drug that is indicated in a certain malady, he must step back and see or wait the results, whether it has the desired effect, or whether or not there is an idiosyncrasy on the part of the patient to this drug that has been administered; for such frequently is the case.

Not so with surgery. The "Master Hand" of the surgeon can perform the operation and see within a short time what he has accomplished, without waiting for the action of a drug. Surgery has made more giant strides in the past half century than all other sciences together.

The only contra-indication in surgery, is the too frequent desire of the surgeon, who makes surgery a specialty, for every ailment to be operated on too freely. I must confess that this has been the case with the writer, who some seventeen years ago desired to perform an amputation on the leg of a small child for a congenital deformity; but the parents would not submit to it; so the young lady who is now eighteen years old, fairly well educated and intelligent, came to me last May and desired the operation.

Drs. Adams and Cisco, of this place, assisted me and we amputated the leg below the knee. She made a speedy recovery and is now in shape for an artificial limb, which will be of more service to her, because she has got her growth, than if it had been taken off when she was an infant.



Over many of the hand-maidens of God, surgery permitted a curse to hang more bitter than that from which Sarah of old prayed for deliverance to be found only in the grave. In such a presence the hand of science was paralyzed, its skill was naught, and the surgeon turned away his face in despair. At last, in the deep forest of the New World, in the backwoods of old Kentucky, the genius of Ephriam McDowell flashed upon the darkness which had so long enthralled such subjects of suffering, and it was given to his skillful and "Master Hand" to lift the weight and to constitute himself the apostle of a new faith in surgical science.

The operation of ovarotomy was first performed by Dr. McDowell at Danville, Kentucky, in 1809.

Still for thousands of years the world waited, unable to shake off the galling manacles of pain; for among the galaxy of pathfinders in all the centuries of medical history, none had arisen to sternly bid the grim spectre flee away and change the operating table into the sufferer's bed of peace. This was reserved for Dr. W. T. G. Morton, in 1836, to bring forth the greatest discovery of all centuries, that of sulphuric ether for general anesthetic.

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*Read before the Magoffin County Medical Society.

Coming on down to later discoveries, we have the first successful appendectomy performed in 1886, which has now become so common.

Of more recent discoveries is the X-ray, for locating bullets, dislocations, fractures, treating skin diseases, epitheliomas, etc.

There is indeed something about the constant coping with surgical problems that makes a man strong, resourceful and able to think quickly. It may be on the field of battle with the whine of bullets overhead, or back of the firing line with a procession of stretchers bringing their burden of wounded; or it may be in the brilliantly lighted amphitheater, or the squalor of a miner's cabin, with only the fitful light of a lantern to help him do his work; or it may be a monarch, or a tramp, fallen from a freight train, whose grave means only another in the Potter's field; still high or low, rich or poor, it all means the same to the true surgeon.

The practice of surgery holds few emoluments in proportion to its great responsibilities.

It is with a deep appreciation of the many splendid tributes that become part and parcel of every true surgeon's character and personality, that these words are brought to a close.

May every true surgeon receive in return full enjoyment, relief and happiness he gives to others, and if he fails to get the recompense and recognition that he so richly deserves during the period that he is on the stage of life, may he receive the reward that trust and hope makes us feel will be his of all men, when his curtain has been rung down for the last time, and the "Master Hand" of the surgeon has performed its last operation.

THE SURGICAL ASPECT OF APPENDICITIS.*

By Guy P. Grigsby, Louisville.

I fear that little can be said about the surgical aspect of appendicitis that you are not already familiar with. If you will pardon a slight digression I would like to briefly deal with the delay of surgical intervention that is one of the greatest hindrances to the advance of modern surgery. Surgeons are often called to employ their art as operating technicians at the wrong and late period of disease. In consequence much of their work is unnecessary surgery. It is to be hoped that the laity and the profession will soon learn not to regard surgery as a last resort as so often is the case now. We have all experienced the difficulty we encounter from the laity, in the early period of surgical affections, when the pain and other symptoms are of not much moment from the patient's point of view, to submit to operation. Hope, fear, inconvenience are all factors that are against early surgical intervention. The most important, however, is the ignorance of the laity and often of the profession. It must be admitted that often the diagnosis for the best results from an early operation is most difficult. Ever since the innovation of modern surgery, surgical technic has been far ahead of either surgical or medical diagnosis. A recent graduate can soon become a skillful technician without even knowing the essential of a proficient diagnostician. I believe that the public, especially the younger generation, is rapidly becoming aware of the advance methods of diagnosis, that allows of the earlier recognition of surgical diseases, and are expecting and demanding their employment by the profession. There can be little doubt that if we are to get better results from surgical intervention the methods of diagnosis already employed by the minority must be made familiar, and made use of by the entire profession.

The patient first seeks the advice of the practitioner, and upon him necessarily rest the bulk of the responsibility. Hence it behooves him, in so far as his opportunities and his circumstances will permit, to keep abreast of the times. It is unfortunate that the country doctor has not the advantages of a laboratory and other methods to facilitate a correct diagnosis as has the city doctor. However much may be learned of surgical diseases by reading. This combined with a more painstaking examination, by palpation, by inspection, and the taking of a more careful history, will allow one to reach a fairly accurate conclusion without the use of other methods. Let's get away from the older text books with their pictures of disease in its late and unfavorable stage and attempt, by reading modern text books and especially current literature to get an earlier picture. If the surgeons will give the aid and the facts obtainable from their records to the general practitioners it will prove a big help to them in making earlier and more accurate diagnoses.

These remarks concern surgical lesions in general, but you can readily see how they can well apply to acute appendicitis. For there is no surgical lesion that brooks of less delay than acute appendicitis. The furor operandi, a few years ago directed against the ovary has been transferred to the appendix.

I do not believe that the removal of a normal appendix, except in those of a neurasthenic tendency, does any harm, and it is often attended with many beneficial results. Provided of course that its removal is done by one that is well qualified in abdominal surgery. There is no way of estimating the number of fatal cases of appendicitis that are prevented by the removal of apparently normal appendices. I have always made it a practice to remove the appendix during operations for other abdominal conditions whenever there is no contraindications. This, perhaps, is contrary to the practice of the majority of surgeons, but has been occasioned by two cases in which I had to do a second operation for the removal of the appendix, one of them terminating fatally.

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*Read before the Nelson County Medical Society.

The consideration of the diagnosis may be briefly divided into: (1) Mal position—and Lane's kink. (2) Acute appendicitis; (3) Chronic appendicitis.

The diagnosis of a Lane's kink rests upon the occasional colicky pain, distention of the ileum, constipation or diarrhoea, and local tenderness in the iliac region, without the signs of an acute inflammation. In other words the symptoms are so similar to those of a chronic appendicitis that the diagnosis is not usually made until the abdomen is opened. The symptoms of acute appendicitis are familiar at the present time to a great many of the laity. I am sure it is quite unnecesary for me to mention them. I will, however, briefly mention them in order to emphasize the sequence or order in which they appear as it is a valuable aid in making a correct diagnosis. Murphy has laid great stress upon this as a diagnostic point, and I am sure if you will observe your cases it will be rare indeed that the symptoms do not appear in the following order:

First, pain, acute, severe, referred at first to the epigastrium, gradually changing to the right iliac region.

Second nausea and vomiting occurring about two or three hours after the onset of pain.

Third, local sensitiveness to pressure and muscular rigidity.

Fourth, elevation of temperature.

Fifth, leukocytosis.

The rigidity of the rectus is indeed a valuable sign, and to a certain degree betrays the extent of the underlying inflammation. In eliciting tenderness and rigidity the careful examination of the two sides will give a basis of comparison that is striking. Palpate over other parts coming back to the suspected region. If this is done with care and gentleness a point of local tenderness may be elicited.

If the appendix is in the pelvis a rectal or vaginal examination may be necessary to elicit tenderness. A vaginal examination in women is of utmost importance.

The presence of a tender mass in the right iliac fossa combined with the other symptoms will make the diagnosis easy.

The temperature varies from 99 degrees to 105 degrees. Perforation is followed, as a rule, by the cessation of the pain, drop of the temperature to subnormal, for a few hours, after which the temperature goes up and the pain again becomes very severe. Remember and do not place any reliance in the temperature as you may have a gangrenous appendix with a subnormal temperature. As a rule, the pulse is a fair guide. So long as the pulse is below 100 the process is confined to the appendix. Over 100 the invasion of the peritoneum has taken place or perforation may be reckoned as possible. The symptoms of chronic appendicitis are naturally those of acute form only in a milder degree. Temperature and pulse are normal. Muscular rigidity is only slight or absent. Slight tenderness may be made out over the appendix region. It may be absent or only present at times. The reflex symptoms are important and may overshadow the local tenderness. They are usually referred to the epigastrium and consist of pain, colicky in character, accompanied by belching, nausea and sometimes vomiting. So-called chronic dyspepsia is often due to chronic appendicitis.

I fear that too often the diagnosis of acute indigestion is made, with the usual treatment by a cathartic, before the real cause, that of an acute appendicitis is realized. It looks reasonable to me that in those conditions in which a cathartic is indicated its postponement will do no harm, while in those conditions that it is contraindicated, it may be a factor in the fatal result. To my mind the two most important things not to do in acute appendicitis is to give morphia and a cathartic. Unfortunately a good many of the patients suffering from this condition will have been given a cathartic before they will call a physician. If we could only educate them to the proper attitude, and that is diagnosis before treatment. They call a doctor and demand and expect relief from their pain and other symptoms. Often the doctor is coerced by the pleadings of the patient or members of the family and he does relieve with morphine, thereby masking his symptoms and making at best the diagnosis most uncertain. On the other hand if the doctor is firm and withholds this relief until he has made his diagnosis, the patient will have suffered enough pain for him to gain an easy consent for an operation. This procedure might perhaps be a little drastic, but unquestionably a great many would be saved in spite of their horror and prejudice against operations. In acute appendicitis and other acute abdominal conditions, I would warn against the delay occasioned by the effort to make an exact diagnosis. It is not absolutely essential, for no matter what the pathological lesion may be an exploratory operation will be necessary. Time is far too essential to spend it in attempting the impossible, when a stroke of the knife will often make the diagnosis certain. This will perhaps often result in unnecessary explorations in which no pathological lesion may be found. However it is a rare exception that these patients do not recover, and often unaccountably they will be relieved of their annoying symptoms. Experience has shown that early exploration is the wisest course to pursue in handling this class of cases. We should employ the brief time at our disposal to be as accurate as our experience and the case will permit. Errors will occur, whether of diagnosis or operation, notwithstanding the utmost care.

In chronic appendicitis the aspect of the whole question is changed. Here we have all of the time that we need to study the case from every standpoint. We are all at the present time too hasty to blame the appendix, when the symptoms are often the result of some other lesion. Whenever there is pain about the appendix, or even slight discomfort we immediately think of chronic appendicitis. In chronic conditions whenever the appendix is to be removed, whether for adhesions, torsion, colic, or whatever the suspected lesion, should not be done until every other condition that might be giving rise to the symptoms have been excluded. The surgeon should be sure that he is indeed on the right track and that it is the appendix that is giving the trouble. In other words the abdomen should not be opened until all means of diagnosis have been exhausted.

Surgery of the Nerves.—Stoffel reiterates that both nerves and muscles are made up of minute fibres which blend more and more to form larger and larger bodies, trunk nerves and big muscles, but the minute units can be followed and traced far upward. Transplantation of a nerve is irrational unless these fiber units are regarded and utilized. The special units for the special muscle must be sorted out and the graft sutured to them alone. He gives an illustrated description of the special technic he has found best suited for the purpose, and urges further research on the morphology, physiology and biology of the peripheral nerves, his work having shown numerous gaps in the text-books on this subject.

GENERAL REMARKS ON THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEY.*

By Guy P. Grigsby, Louisville.

Surgical procedures of the kidney and urinary tract have greatly improved during the past few years. This has been accomplished, not so much by our better operative technic, as by our improved methods of diagnosis. We are now able to obtain an almost positive knowledge of the condition that we must deal with.

On account of the necessarily limited scope of this paper, I shall deal more intimately with the diagnosis and the methods of diagnosis of the more commonly met surgical lesions of the kidney, rather than with their surgical treatment.

When we are called to see a case with a suspected surgical lesion of the kidney, we first elicit the symptom of pain in the loin of the affected side; second, urinary symptoms, or to the voided urine; third, to the constitutional symptoms. In this examination, several questions must be considered. First, is the kidney or some other part of the tract involved? Second, which kidney is involved; is there another kidney and, if so, what is its condition? Third, what is the nature of the disease? Fourth, what is the functional power of the two kidneys? Fifth, is an exploratory operation necessary?

The physical examination is best accomplished with the patient lying prone, with the knees flexed, and head and shoulders slightly elevated. Inspection may show a bulging in the loins that calls to mind the possibility of an hydronephrosis, pyonephrosis, tumor, abscess, or rupture of the kidney. Percussion is not of much value, but remember that a distended bowel does not affect the liver dullness but obliterates the kidney dullness.

PALPATION.

If the right side is to be examined, stand on the right, facing the patient. The right hand is on the front of the abdomen to the outer side of the rectus; the left hand is posterior to the outer side of the erector spinae. The patient is directed to inspire and expire deeply and, during the moment of relaxation, firm pressure is made with the right hand in an endeavor to reach the other hand posteriorly. If a surgical condition is present, pain and tenderness will be elicited. A normal kidney is not tender to the touch. We also note the size, shape and mobility of the kidney. We should by this means detect the presence of a movable kidney. When the kidney descends so far during inspiration that the expiratory ascent can be prevented by firmly pressing the examining fingers above, it is abnormal. There are all degrees of mobility of the kidney, from that described to being found in Douglas' cul-de-sac. It may be confused with a distended gallbladder, but remember that the latter is continuous with the liver and moves with it. Pressure causes a radiating pain that extends upwards. It cannot be made to recede into the kidney pouch. Whenever palpation leaves the examiner in doubt, the affection is usually of the kidney. Just a word of caution. Movable conditions of the kidney are not operable because of their mobility but because of the symptoms producéd. If, in a case of movable kidney, the symptoms of pain, urinary disturbances, nervous phenomena, and gastro-intestinal disturbance can be elicited and definitely traced to the floating kidney, then nephropexy is indicated and should by all means be done.

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*Read before the Washington County Medical Society.

The prostate should be examined for enlargement and the urethra for strictures, for all obstructions favor cystitis and suppurative disease of the kidneys.

A careful microscopical, as well as a chemical, examination should be made of the urine. Much information is derived from a careful examination of the urine if a surgical lesion of the kidney is present. Casts and albumin indicate a marked irritation or a disease of the kidney. If pus is present it would indicate the possibility of an infection of the pelvis of the kidney. Pus casts would show that the parenchyma was also involved. An increased amount of urine of low specific gravity would lead us to suspect a tuberculous process, that the presence of the tubercle bacilli would confirm. Atypical cells, tumor fragments, and the presence of connective tissue, would indicate a tumor. Blood, with other abnormal renal products, suggests tumor, stone, tuberculosis, or a hemorrhagic nephritis. I cannot lay too much stress upon the careful examination of the urine, because it often gives us most reliable information upon which to base a correct diagnosis. To illustrate this, I recall a case at the Woman's Hospital. The only symptoms that we could elicit from this woman were, loss of weight, appetite and strength. A most careful, painstaking examination failed to reveal anything abnormal except a moderate anemia, a slight leucocytosis and a little daily rise of temperature. The urine showed a few blood cells, many pus cells and a few hyaline and granular casts. Under the conditions, nothing was to be done except to locate the origin of the pus. In consequence, a cystoscopic examination was made that showed clear, normal urine coming from the right kidney, while that from the left kidney was lessened in amount and cloudy with pus. A radiograph confirmed the diagnosis of a stone in the kidney pelvis. Operation revealed the presence of one large stone in the pelvis.

This is one of those cases of renal calculus that practically gave no symptoms—certainly no pain and very slight haematuria. In this instance, the examination of the urine, disclosing the presence of pus, gave the only clue that enabled us to make a correct diagnosis, and led to the ultimate complete recovery of the patient.

If, from the urinary and physical examinations, we feel that we are dealing with a surgical lesion of the kidney, we must next determine the location and the nature of the disease; also, if there is another kidney and its condition. For this knowledge we must resort to the cystoscope and catheterization of the ureters. We can by this means determine the presence of urethral, bladder, ureteral and kidney diseases, and to know if one or all four parts of the urinary tract are involved. If the kidneys are involved, we can tell which one, and form a fair estimate of the condition of the other. Bacteriological cultures can be made direct from each kidney, and we can know definitely the infecting organism we are dealing with. In those cases of intractable cystitis, we can determine whether the kidney is the source of infection or not. A number of cases of pyelitis have been reported in which good results have been obtained by irrigation of the pelvis by means of the ureteral catheter. Strictures of the ureters, or stones that are obstructing the flow of urine, can be detected; thus an hydronephrosis would be explained. In cases that give a history of previous attacks of pain referable to the kidney, the exact pain can be reproduced by dilating the pelvis with a fluid. As can be readily seen, this will at times prove itself a good point in differential diagnosis.

The comparison of the specimen from each kidney with that of the general urine from both kidneys, with the knowledge already obtained from the other examinations, will more than likely enable us to tell the condition of each kidney and the nature of the disease. In a case where we have a large tender kidney on one side, the pain being followed by haematuria, with the presence of crystals, masses of mucus and epithelia in the urine, we would be led to suspect that we are dealing with a case of aseptic nephrolithiasis. With the same findings, plus attacks of fever, pus, granular, epithelial, and pus casts in the urine, we would probably be dealing with a septic nephrolithiasis. Providing, of course, that by our cystoscopic examination we found no cause for obstruction to the urinary flow in any other part of the urinary tract. This is a class of cases in which a radiograph is a necessity for an accurate diagnosis. While it is true that the X-ray will fail, at times, to reveal the presence of a stone, these occasional errors are being lessened as the technic improves. I would add, however, that the interpretating of radiographs should be done by one who has had a large experience in such work. Otherwise, incorrect readings will result, that will prove a menace rather than an aid.

The functional capacity of the kidneys should be determined before any surgical procedure is undertaken upon them, for it is an index to their health from a physiological point of view. It is important to know the nature of the disease; it is also important to know the amount of functional efficiency left in the diseased kidney, as well as its mate. The comparison between the functional states of the two kidneys is of the utmost importance. The removal of a diseased kidney is not a dangerous procedure, providing the other is capable of taking its work. The most accurate means of determining the functional capacity is by ureteral catheterization and examination of the specimen obtained. Cryoscopy, or the determination of the freezing point of urine, is an elaborate process and its compensating value is questioned. The phloridzin test is based upon the power of the normal kidney to eliminate sugar within a certain time after the subcutaneous injection of phloridzin. In renal disease the appearance of sugar is delayed; the elimination feeble, prolonged, or absent. The methylene blue and of phenosulphonephthalein is 6 mg. in 1 c.c. the same principle, but the latter is the more accurate and reliable of the three. The dose of phenolsulphoneaphthalein is 6 mg. in 1 c.c. of salt solution, and is given intramuscularly or subcutaneously. The urine is collected for two hours after the first appearance in the urine, and the specimens kept separated. The ureteral specimens are only collected for one hour. An instrument called a colorimeter is used for comparison to determine the amount of the dye excreted in the two specimens. The normal kidney eliminates about 40 to 50 per cent the first hour and from 20 to 25 per cent the second hour. In a diseased or impaired condition of the kidney, the elimination may be decreased to 3 to 5 per cent the first hour and from 8 to 10 per cent the second hour. It would seem that in this substance we have an agent that is non-toxic, is rapidly eliminated, and the results of which are fairly accurate in determining the impairment of the kidney.

In certain patent conditions of the kidney, such as a large abscess, or tumor, or where the constitutional symptoms are of such grave character as to demand surgical interference, in which we can feel reasonably certain that the kidney is the offending organ, an exploratory operation is then a necessity. Under these conditions the delay and the shock to which the patient would be subjected in carrying out the elaborate details of diagnosis as related, would be foolish in the extreme. However, the majority of cases of renal surgery are not of the acute type; therefore, it behooves us not to leave any examination undone or any test untried, until we have a fairly accurate knowledge of the condition with which we are dealing.

Certainly, early diagnosis are desirable in all cases of renal affection. As a rule, this is up to the medical man, for he sees these cases first. Unfortunately, many of the conditions go unrecognized for a year or two. Especially is this true of nephroptosis. These cases are treated for intestinal indigestion, or some other condition that is a symptom produced by the misplaced kidney. Remember, when you have a persistent pyuria, with no evident cause, the large proportion of these cases are tuberculous. Also bear in mind that often several examinations are necessary before you can demonstrate the tubercle bacilli. The earlier these cases are recognized, especially if they are unilateral, the better. Early operation will save 40 to 50 per cent of these cases while the best we can do now is to save 20 to 25 per cent.

Syphilitic Otitis Media.—Luders reports five cases of a primary syphilitic process in the tympanum or labyrinth wall. Severe deafness and signs of acute otitis media were not relieved by paracentesis, and a history of syphilis, two, five and six years before, cleared up the diagnosis. All the patients stated that the hearing had gradually declined as the signs of otitis developed. One patient had also nausea and vertigo, one facial paralysis on the affected side and in one the meatus was much swollen. Onep atient had fever, vertigo, vomiting and nystagmus and two of the others had also nystagmus toward the sound side. One patient was an infant with inherited syphilis. Under combined antisyphilis treatment the disturbances subsided, but the hearing on that side was permanently lost in the cases which went on to suppuration. In six other csaes of non-specific acute otitis media in syphilitics the process healed promptly under the usual measures without impairment of hearing.

THE SYSTEMATIC FACTORS IN THE ETIOLOGY OF PROGRESSIVE DEAFNESS.*

By J. A. Stucky, Lexington.

The author justifies his subject by selecting one that is recognized to be practically hopeless under existing theories of etiology and treatment and advances new and radical departures from the old view of this very distressing condition.

In spite of the rapid progress of otology the author states that "the otologists can never be satisfied until the cause and relief of progressive deafness, resulting from non-exudative otitis media and oto-sclerosis is found."

In apology he admits that the majority of these cases are not seen by the otologist until they have become chronic and beyond the possibility of complete restoration to normal.

In the typical cases are found no objective or subjective symptoms of suppuration. The degree of deafness fluctuates—the usual anomalies of hearing are present. Tinnitus and slight vertigo accentuated by circulatory or vaso-motor disturbances in the labyrinth. No definite objective symptoms except slight retraction or atrophy or opacity. The eustachian tube normal, all changes being very slow, but progressive. The beginning hardly perceptible but still progressive even after repeated inflations, there follows ankylosis of the ossicular joints. The deafness in these cases is always made worse by anything that lowers the general vitality or by any acute naso-pharyngeal condition. These cases go far toward proving the author's contention "That these diseases are only local manifestations of systemic conditions."

The time honored causes cannot account for this condition although the exact nature of the causative relation is not yet clear. By the old theories of etiology we can not explain why in two patients with apparently the same pathological condition, the symptoms may be entirely opposite.

And we may console ourselves by explaining that they are due to organic diseases of the heart, kidneys, liver, or larger blood vessels; that the cause of stasis of the venous circulation in the head or increasing arterial tension leading to hyperaemia of the mucous membrane of the nose, throat, and ear, and resulting in tissue changes. Then the author asks, "What produces these organic diseases of the heart and lungs? does the cause of these diseases arise in the body or without?" He declares the fact that most otologists are content to treat locally these cases without taking the trouble to inquire into the underlying cause of the trouble.

In dealing with oto-sclerosis the author states that in spite of the work done by many investigators "Oto-sclerosis remains the most embarrassing and the most hopeless of all diseases of the ear."

Primarily affecting the bony capsule of the labyrinth, fenestra ovalis, rarely the fenestra rotunda or some part of the choclea—there is outgrowth of spongy tissue with invasion of annular ligament and foot piece of the stapes and ultimately firm ankylosis, producing more or less profound deafness, usually affecting both ears. Most common in women, in middle life and supposed to be influenced by heredity. The etiology is still obscure though the toxic condition of arterio-sclerosis, etc., are most prominent. Subjective symptoms are the same as in non-exudative otitis media. Objective symptoms practically absent.

The author insists upon the fact that in these conditions producing progressive deafness come from within the body and that it is frequently secondary to some systemic condition and again urges the importance of "looking more thoroughly into the body complex and systemic condition." Urging the importance of the aid gotten from the internist and laboratory man to "ascertain and remove everything that interferes with normal metabolism."

The author cites his own series of cases kept under observation from five to fifteen years in whom he has "directed a line of treatment and method of living "which have given results that justify him in the conclusion that it is the systemic rather than the local factor in the causative relation of these conditions with which we must deal, in order to bring about favorable results."

In eleven cases of non-exudative otitis media from twenty-three to sixty-three years of age, with hearing from 25 to 50% below normal, and gradually increasing deafness, the results of treatment have been improved hearing 10 to 30%, continuing except for exacerbation due to indulgeance in eating and drinking, for days and weeks, with speedy improvement when return to prescribed remedies and routine of diet. No local treatment in these cases except during exacerbation.

In seven cases of oto-sclerosis, five diagnoses confirmed by other otologists who gave unfavorable prognosis. Aged from twenty-two to forty-seven years, with hearing 10 to 35% below normal, have had improvement from 15 to 20% in three cases, 2 to 5% in other four being the most advanced and oldest cases.

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*Abstract paper read by itvitation at New York Academy of Medicine, Nov. 8, 1912. (Published in New York Medical Journal, Dec. 28, 1912.)

The author vouches for diagnosis in all these cases after repeated examinations and after confirmation by other otologists. He also warns against drawing conclusions from too small experience but states that the results in these unfavorable cases and of satisfactory results in other cases, justifies his encouraging reports because the results were obtained through systemic treatment alone.

In the majority of cases there is evidence of faulty metabolism indicated by presence of indican or excess phosphates and urates in the urine; or the presence or history of rheumatism.

Next in frequency is high blood pressure. The author states that "I am inclined to believe that when we have solved the problem as to the cause and cure of rheumatism and arterio-sclerosis, we will have solved also the problem of the prevention and cure of the non exudative otitis media and oto-sclerosis."

The real causative factor of these diseases is something generated in the body from food and drink, products of imperfect digestion, assimilation and elimination, taken up by the circulation, setting up irritation at the point of least resistance in the body. The author does not believe that every functional disease has a pathological condition to account for it. The blood is poisoned through the absorption of toxins from the intestinal tract more than from any other source. "Food, drugs, and toxins, once in the circulation, select the functions which they specifically arrange or derange, and some functional changes produce organic changes, due to possession of chemical affinities," he continues by natural inference. "Continued use of alcohol produces structural changes in the kidney, nerve and liver tissues, and why not the same structural changes occur in the middle ear and labyrinth." These toxins are cumulative and may present a long time before the final explosion. Following the same generally accepted fact, the author continues "toxins owing to a disturbed body chemistry, are manufactured daily in the intestinal canal and if allowed to remain in the system, the result is a protest from the irritated nerves and poisoned cells manifested in rheumatic pains, deposits of exudate and various other evidences of toxemia of systemic origin." Further he says that finally after prolonged toxemic conditions there will follow anatomic and physiological changes, especially in the eye is this seen, where vision may be much impaired or soon entirely destroyed.

The author blames modern civilization for the causative element in many diseases and says "the average person does not know what, how, or when to eat, as he should; that many of our diseases are due to lowered vitality and diminished powers of resistance as the direct result of the ingestion of excessive quantities of food and drink" and in consequence of the fact that the eighteen cases reported have remained relieved of aural discomfort and improved hearing from five to fifteen years. He says "the only treatment has consisted in the regulation of diet as to quantity and quality, largely eliminating red meats and cane sugar products, and encouraging the eating of fruits," as the result of extensive observation and investigation in his locality, the author states that the red meats and cane sugar products generate toxins and more frequently interfere with metabolism than any other articles of food, especially if indulged in to excess, the starchy foods being of greater importance in causing disturbance.

The lesson from all this is that the cause of the trouble can be accurately ascertained and that "hygienic and systemic treatment in non-exudative otitis media and oto sclerosis must be regarded as of the greatest importance. Then by way of advice and warning he says "this means that we should not know less of otology, but more of the physilogic, hygienic, and dietetic department of the science of medicine. There are pathological conditions that surgical means alone will remove, but these two diseases are exceptions. Then the author goes on to say "The complete restoration must come through the blood, aided by the nervous, lymphatic and respiratory systems, and these are dependent entirely upon the dietetic and hygienic life we live."

The author argues against becoming discouraged by stating that the results are necessarily slowly attained for which reason many patients and physicians too often times become discouraged and give up before one could hope to see any very appreciable improvement. Also many patients are unwilling to undergo the restrictions and self-denial in order to get results. The author then concludes by making the very clear and positive statement, "We must ascertain the cause of the faulty metabolism, whether digestion, assimilation, or elimination, then remove and correct this, restrict the diet, and with sufficient physical exercise and with the patient and persistent use of reconstructive and alterative remedies for many weeks and months, can we hope to attain the best results."

THE NECESSITY AND MEANS FOR EARLY DIAGNOSIS IN MALIGNANT DISEASE.

By W. E. SENOUR, Bellevue.

To my mind the most comprehensive and obscure problem confronting the medical profession to-day is that of the cancer.

Practically all animal life is subject to its ravages. From all parts of the globe come reports telling of its rapid increase.

The mortality reports of England show that one man in eleven and one women in eight dies of cancer. These reports also disclose the fact that more women over thirty-five years of age die of cancer than of tuberculosis. Identically the same conditions exist in our country. The Government census for 1910 shows that 1-20 of all deaths from all causes, at all ages, result from cancer. In San Francisco the death rate from cancer increased seven times in 32 years; in Boston, three times in 24 years; New York, twice in eleven years; and in Germany, about seven times since 1874.

Thus the weight of evidence to-day indicates beyond peradventure that cancer is steadily increasing in man and the domestic animals, and that this increase is likely to become more pronounced unless some means are adopted to prevent its spread.

Surgeons and clinicians are agreed that cancer has been growing steadily in frequency during the last quarter of a century and that it has appeared at early periods in life. A part of this increase is, no doubt, due to improved methods of diagnosis. They also agree that theoretically there is a stage at which it can surgically be cured.

We also know that there are certain organs that may be the seat of a cancerous growth that are so located that no examination that we are able to make with our present appliances and skill will reveal the disease until it is so far advanced that it is beyond the hope of any operation.

Some organs are so located that even if we could detect the cancerous growth at an early stage, its removal would be, at the present time impossible.

I know of no better example of this kind than a malignant neoplasm of the upper urinary tract. The diagnosis of a malignant focus in this location baffles the combined efforts of the most astute surgeon and skilled urologist, the diagnosis being made post-operation or post-mortem.

In view of the foregoing facts, added to those disclosed by a careful review of all aperations for malignant disease performed by the foremost surgeons throughout the world, we are thoroughly convinced of the necessity for earlier diagnosis, and would most earnestly urge that all means known to modern medical science be utilized for its accomplishment.

The wisdom of early recognition and complete removal by the knife is a lesson that has been thoroughly learned by the present-day surgeons.

W. J. Mayo says, "A suspicion of cancer of the stomach which can be dissipated by known methods within a short time should lead to explorations. Out of 313 operative cases he found that only 26 had been diagnosed early enough to permit of radical extirpation.

Similar reports come from the clinic at Johns Hopkins and the clinic of the New York Post Graduate.

During the past five years the writer has observed 48 cases of cancer affecting various parts of the body. Only 14 of this number were operated upon; the remaining 24 being so far advanced as to preclude any hope of relief or cure. Out of the 14 operated upon six are still living.

Rodman has collected 2,133 operations performed for cancer of the breast since 1893 by 21 different American surgeons with a mortality of 1%.

When we recall that 80% of all tumors of the breast are malignant or become so sooner or later and unless removed, kills, the great responsibility of the family physician becomes apparent, since his opinion is first sought. In cancer of the breast it is not so important to make an exact diagnosis as in cancer in other parts of the body, because all medical men are aware that any persistent tumor enlargement of the breast is suspicious by its very presence.

Women with lumps in their breasts do not realize their danger.

Hope and fear exists in their minds—hope that they may get well without an operation, and fear that they might die as a result.

They are ignorant of the fact that in suitable cases of cancer of the breast that the mortality is 1-2 of 1%. They are likewise not aware of the great probability of a permanent cure in the early stages. They are also influenced to postpone operation on account of fads and fancies, religious and otherwise. Some cases are postponed because of an unfavorable result in some friend who was probably operated upon in an advanced stage. Others postpone operations on the advice of some ignorant practitioner.

The greatest strides made in recent years in the recognition of early cases of cancer of the stomach has been limited to the laboratory and surgical phases of the subject.

The clinical symptoms of the laboratory

findings differ according to different observers. They are not to be isolated from symptoms and cause of disease.

In making a diagnosis of carcinoma in any part of the digestive tract it is necessary to give especial attention to the general history of the patient, for considerable weight must be placed upon the subjective symptoms.

The closest scrutiny of all symptoms, signs and laboratory findings as well as the most careful data entering into the previous history by a skillful diagnostician is an absolute necessity.

During recent years much time has been spent in both chemical and X-ray laboratories to aid us in diagnosis of cancer of the digestive tract.

Along chemical lines we have the test meals, viz: the Ewald-Boas' test—breakfast consisting of tea and bread and the Boas' evening test meal of bread, butter, cold meat, two cups of tea and sugar. These test meals are withdrawn by the use of the stomach tube and examined macroscopically, microscopically, and chemically. Macroscopic appliances aid us in considering the appearance and amount, order and the character of the contents.

Microscopic examination enables us to observe the presence of food remains, blood cells, pus cells, epithelium, various organisms and tumor cells.

Chemical examinations aid us in determining the presence or absence of Hcl, the condition of the gastric secretion, the presence of ferments and occult blood. If chemical examination frequently repeated during the course of three or four weeks shows marked domination of Hcl and if lactic acid is present, if there is wasting without any other assignable cause, if the condition resists treatment for several weeks, if epigastric rigidity, if a constant positive blood reaction is given by the stools with good motility of the stomach, if the several examinations of the stomach contents, the results are fairly uniform, an exploratory incision is indicated.

While these tests prove nothing they are of confirmative value in early diagnosis if systematically carried out.

Among instrumental aids to the early recognition of cancer of the digestive tract the X-ray and gastroscope deserve mention.

By the use of the X-ray we can ascertain not only the size and position of the stomach but also the degree of motility, the amount of accumulated gas, and any retention of food that may be present; can also detect the presence of a new growth before it can be palpated.

The gastroscope has been used with meager results.

The urgent need for an earlier diagnosis in carcinoma of the cervix becomes manifest. When we are told that practically every case of carcinoma of the cervix in this country dies either of the original disease or recurrence following the operation. During the past five years the clinic at the Michigan University has received 218 cases of carcinoma of the uterus. Of this entire number only 51 were seen early enough for radical operations.

In accordance with reports from Johns Hopkins, 39 out of 412 patients with carcinoma of uterus were operable; out of 115 cases of carcinoma of cervix examined by Dr. Gaussig, of St. Louis, during the past five years 22 were operable.

The women are negligent of early symptoms and many practitioners careless of diagnosis or rather inclined to try palliative measures until the disease is too far advanced.

Only 20% of all cases of cancer of the uterus are operated upon.

Crile tells us that in 85% of his cancer cases he finds positive hemolysis and in these cases when hemolysis was not present were advanced cases already unoperable.

It is sincerely hoped that a simple technic may be worked out as a blood test for cancer, which will place this aid to diagnosis where it can be universally applied.

While the methods for making an early diagnosis are varied and many, few, if any, are positive.

In cancer of the internal organs there are no early clinical symptoms that are absolutely reliable. The best we can do is to explore early and operate according to findings, because we know that when the clinical symptoms are at hand the golden opportunity is lost, and patients operated upon at this time live only a year or so afterward as a rule.

The most formidable obstacle to overcome, in early diagnosis of malignant disease is ignorance of both laity and the medical profession.

We can not hope for earlier diagnosis and consequently earlier exploration unless the means for making same are familiar to and made use of by the entire profession.

The need of the hour is for earlier diagnosis, and better diagnosticians.

Since the public seeks the advice of the general practitioner first it is incumbent upon him that he qualify himself to do the work.

If he is so located as to be unable to employ modern methods he should seek the assistance of his colleagues, viz.: the pathologists, Roentgenologists, and surgeons.

Ever since the introduction of modern surgical methods, surgical technic has been in advance of either surgical or medical diagnosis.

A graduate in medicine can become proficient in surgical technic long before he is in diagnosis. A careful statistical report of all surgical clinics demonstrates that not only malignant disease, but all classes of disease which ultimately present for operations, come not in the earlier stages but the later periods.

In my judgment education offers the only solution to the problem.

If the surgeon hopes to get his surgical cases earlier, he must study his own records and present the result of that investigation to his colleagues.

While the surgeon has been crying for an opportunity to operate earlier he has not furnished the evidence to support his demand. He has not given the clinician the facts which are obtainable only from his surgical records. The medical section of our profession must be called to assist him to decide when to operate. The surgical profession must educate itself to know what is best to do after an exploratory incision is made.

Much useless surgery has been done because of the fact that most cases of malignant disease are allowed to reach an advanced stage before expert medical or surgical services are sought.

Nothing has contributed more to bring surgery into disrepute than late operations for carcinoma.

There is no class of cases where surgery today is suffering as much reaction on account of delayed diagnosis. Surgeons have more painful reminders in their operative work that much of the surgery is too late, consequently unnecessary.

This educational campaign must not be confined to the profession; must be carried into the homes of the laymen.

We must teach the people to be willing to undergo treatment or operation at a period in their disease when the chemical diagnosis is impossible or still doubtful. Inform them concerning the danger of an abnormal lump in any part of the body. Inform them concerning the significance and danger in pathological bleeding from any part of the body; also the danger of neglecting chronic ulcers wherever located. For according to the surgical records of Mayo of this country and Moynihan and Robson of England, gastric ulcer is a precancerous lesion in 75 per cent. of cases of cancer of the stomach. While this has not been scientifically proven yet I am convinced from my observation that it contains much truth. We must teach the public also the danger arising from frequent trauma and also inform them concerning those conditions that lead to long continued irritation of tissues. Impress upon them the fact that in the earlier stages of cancer pain is absent, that the symptoms are vague and indefinite, and that it is many times a matter of accident that these tumors are discovered. Impress upon them the necessity and importance of frequent examination by the physician, especially during the cancer age. Tell them that 80% of all tumors of the breast are either cancers or become so sooner or later. Tell them that the operative mortality in cancer of the breast in experienced hands is only 1%. Tell them than cancer of the stomach ranks among the most frequent of all cancers. Teach them the value of exploratory incision as a means of clearing up a doubtful diagnosis. Persuade them to look upon symptoms of gastric ulcer as the first stage of gastric cancer, and urge them to seek medical or surgical treatment which heals or removes the ulcer. All future progress in the solution of the cancer problem must come through education.

ADVANCEMENT IN THE TREATMENT OF INFECTIOUS DISEASES.*

By H. J. Farbach, Louisville.

Infectious diseases to-day as in the past are the maladies that confront the physician and surgeon most often. We are coming to know that most organic pathology is but the aftermath of some infectious disease. How then are we better prepared to combat these than our forefathers?

The advancement of bacteriology, the finding and proving of the cause of a disease, has been the strongest fighting arm. There are many here who distinctly remember the alarm and dread with which the announcement of smallpox, yellow fever, cholera or diphtheria, was received in any community, large or small. Still to-day the announcement of either smallpox or diphtheria, causes little or no alarm, even in the family in which it appears. This is one testimonial of what bacteriology has accomplished. Another and perhaps greater one is the so-called prophylactic measure that we use to-day to prevent the presence of disease and to prevent its spread if it does appear.

But what has been true of some infectious diseases, as those mentioned, has not been true of others such as pneumonia, measles, etc. But as my topic is advancement in treatment I will not dwell on prophylaxis.

Our advancement in the treatment of infections diseases have been along two lines, chemical and biological. Specific chemistry therapy has always been an attractive field to the investigator, for selective action of certain chemicals for certain animal and vegetable cells has found no more enthusiastic and tireless worker than Erlich. And he has given the profession perhaps the most near perfect specific chemicals that we have to-day in his "606" and "914" preparations. In these he has an agent that shows a selective highly toxic action on the treponema and in most cases exerts little or no influence on the human cells.

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*Read before the Daviess County Medical Society.

A great deal has been said for and against these new remedies, some men going so far as to say that mercury should no longer be used in the treatment of syphilis while the pessimist claims that they have done great harm and no good. But both these statements are of course extreme. There can be no doubt that Ehrlich's arsenic combinations are of value in our treatment of lues but the question is asked so often by the laity and members of the profession just what is the position of "606" to-day. Although we have learned a great deal about the action of "606," good and bad, its place in the treatment of lues is by no means definitely determined. Ehrlich's work in sleeping sickness and relapsing fever led him to make his statement of complete sterilization of the blood in syphilis. In fact, I sincerely believe it does destroy all the treponema in the circulation especially when given by the intravenous route but Ehrlich's as well as all investigators have come to know that he cannot expect the result in lues that he obtained in the trypanasoma and spirillum infections. The reason of this is the nature of the infection in the two maladies, infecting agent in trypanasoma was in the circulation and circulation only, while in lues we know the treponema to exist in every tissue of the body.

Therefore, the failure to completely eradicate the infection by one, two or many venous injections. I will not attempt to name the different methods and procedures of administrating "606" and "914" that are advocated by different men because here, as in religion, each man seems to outline his own destination. But, a few basic principles underlie them all and the different methods are but variations of these principles.

The two methods of introducting the drug are intramuscular and intravenous. The subcutaneous route having been abandoned. Erhlich himself in his latest statement is quoted as advising the intramuscular route. There can be no doubt that more efficiency of the drug is thus obtained but the great bugbear to this procedure is pain. The "606" is given intramuscularly in acid, or alkaline solutions in different concentrations and in oil suspensions. The "914" the newer product, of greater ease in handling because of its forming a neutral solution seems to have settled the point that neither the acid nor alkaline solution of "606" had any superiority over the other in lessening pain, because it, itself, a neutral solution, produces as much or more pain than its predecessor, "606."

The ready solubility of "914" and its forming a perfect solution of itself commends it very highly and consequently there have been many ways devised to make its application intra-muscularly painless.

So far no such procedure has been found that will work successfully in every instance. As it is folly to go into the details of the different procedures, I will mention the ones that have given me the most satisfaction and some of my conclusions.

I will make these statements brief and give them only as my personal selections and results. From a therapeutic standpoint "606" and "914" are the same. The latter, if anything, a little more potent than the former. I want to mention a few "dont's." First, Don't use either "606" or "914" in a patient over 40 years of age if you can get results with anything else.

Don't give them to a patient showing any renal incapacity or even irritation. Do not give them to a person that has an idiosyncrasy for arsenic. Do not think that they will take the place of your mercurials in obtaining ultimate relief from lues.

In my opinion these preparations have but two uses. One in controlling symptoms when mercury will not and the other in shortening the length of time of treatment. And I use them accordingly. If I see the patient in the primary or early secondary stage of the disease, I begin with mercury and I want to say right here, gentlemen, that I have seen as rapid subsiding of symptoms under the intramuscular injection of the salicylate of mercury as I have under the arsenic preparation. If these patients answer to mercury then I continue it for my three to five months. What does "606" offer you in these cases. A shortening of the length of time of treatment only, and even this statement is open to criticism because our deductions are based on too few cases covering too short a time. But my plan has been to freely discuss and explain the situation to the patient and leave them to select or reject the arsenic medication. If they wish to have the "606" or "914" I generally use an intravenous injection first and then follow by one or more intramuscular or until I obtain a negative Wasserman. Then I keep these patients one year on the periodic intensified mercury treatment.

In cases in which the patient cannot take sufficient mercury to control his injections, and in my experience these cases are very rare, then I use the arsenic preparations provided there are no contraindications. I have found that in these cases after the use of either "606" or "914" they can take the proper amount of mercury without any unpleasant effects.

Another class of cases that we see often and in which are prone to jump or grab for these new remedies are the so-called tertiary manifestations, ulcerating gummas, pressure gummas, and nerve syphilis. I have arrived at the state where I use very little arsenic and that very cautiously in these cases. I have obtained my minimum of good results in this class of cases and have seen my worst results from arsenic medication here, depend on your iodides and mercury here and use the new remedies as a last resort and with a good deal of apprehension.

As to administration, many intravenous outfits are on the market; they are all good, but the more simple the apparatus is, the better. Intramuscular medications, I have practically abandoned the acid and alkaline solution of "606" in intramuscular injections. They produce so much pain and discomfort and are followed in some instances by abscesses. When I use "606" intramuscularly I use it in an oil suspension. I do not see any advantage of "914" over "606" when used in an oil suspension. Its ready solubility attracts one but in all the combinations I can conceive of, it produces more pain, as a rule, I give them the oily suspension of either "606" or "914". This includes the glycerine mixtures suggested by Walbast.

The other and greater line of advancement has been in the biological field. It may be a sign of disrespect to speak of the work of these men, who have, and are, devoting their lives to answering biological questions without naming Coahone and the work he has done, but I have found that the detail of laboratory procedures to other than laboratory workers is irksome and therefore if I cover this ground in a slighting manner I do not mean to be disrespectful.

When it was proven that the injection of any substance into an organism that had the ability to unite with some cellular element in that organism, was followed by the appearance in the circulation of that organism of an antibody specific for the substance injected, the gateway to biological investigation was thrown wide open.

Erhlich, in his studies in immunity proved the first step of this. Proved that for any organism to become immune to the action of any organic substance, that organic substance must have the ability to enter into the economy of the organism, loose its chemical identity, the same as food stuffs do. Any substance that does not obey the law could not produce an antibody. In other words, by slowly increasing the amount of a poison beginning with a small tolerated dose, the amount might be increased far above what would be a primary lethal amount but this was due to a developed tolerance and not to an immunity in any form.

The proof of this phenomena, the production of antibodies, of course incited a number of investigators, the result of whose effort was the production of antitoxic serums. The diphtheritic being the first one perfected. At this time the outlook of serum therapist was indeed sanguine, with the proof of having successfully conquered one of the greatest infectious foes it was but naturally to assume that in the near future serums would be obtained for all infectious diseases and all that would be necessary would be to make a diagnosis, from the first symptoms of a beginning infection, procure the proper serum, inject and the next day the foe would be vanished. But the very next attempt along the line was, and still is, a failure. I speak of the antitoxic serum for tetanus.

So have most, if not all, the other infections proven. Many obstacles, unthought of, arose in the production of serums and it soon became evident that serum therapy was indeed limited. In studying antibody formation, other bacteriotrophic substances were met with and after the disappointing results of serum investigators these workers turned their attentions to these other immune forces.

The results of these investigations was the identification of such bacteriotrophic substances as agglutinins, precipitins, opsonins, aggressins, etc. Of these, the opsonins, have commanded the most attention from a diagnostic standpoint. Wright and his followers must be given credit for the widespread interest taken in this phase of biological therapy. It was by their technic that the presence and action of opsonins were demonstrated and proven. The action of the opsonins is that of a bacterial sensitizer, their presence in all healthy, normal blood serums accounted for, or explained to a great extent, the natural resistance toward all bacteria. And when the proof was forthcoming that they were absent or greatly reduced during an infection, and could be increased by the injection of dead cultures, the opsonic theory was received with open arms.

In the use and study of the so-called vaccines a great deal has been learned. One of the most important of which is that they accomplish more than was formerly taught. The Wright school gave vaccines to increase opsonins and in diseases where the opsonins were already high they advised against the use of vaccines. But where they were used in such cases it was found that at times great benefit was derived. This favorable action could not be explained along opsonic lines but it could along the lines of specific antibody formation. With the perfection of the laboratory technic of the complement fixation phenomena it was possible to demonstrate that specific antibodies were formed.

I have devoted a good deal of time in the past two years in proving some phases of this action. A word of explanation. Every cell in the body is a chemical compound, and each type of cell varies in its formula. For instance, the oxyntic cell of the cardiac end of the stomach is of a very different chemical nature than cells of the cerebral cortex, or a liver cell, or a kidney cell. Remember, too, that in Erhlich's side-chain theory of immunity the explanation is on a chemical basis. Each body-cell has unsatisfied valencies. Some of these are satisfied by chemicals in the circulation and by this action the function of the cell is performed. The stomach cells in this way forming gastric juice, the liver cells bile etc. But all of these unsatisfied valencies of the different cells are not devoted to every-day metabolic functions. One of them unites with the toxins (also chemical compounds) of bacteria. And it is this union of the bacterial toxins with body cells that allows the toxins to act on the cells and give rise to the symptoms that characterize the disease. The chemical molecule of the cell that unites with the toxin has been called the cell receptor. When this receptor unites with a toxin molecule that cell is deprived of a something it had before the union. Nature at once proceeds to replace this loss. Here, as in every repair process, she sends more than just enough to replace the part destroyed, and instead of the cell containing just one chemical molecule of the formula of this destroyed receptor it contains several of them. Originally this cell was constructed to contain but one such molecule, this one being replaced, the other molecule of identically the same chemical formula are in excess and the cell casts them off into the circulation. These cast-off cell receptors are chemical molecules with an unsatisfied valency for a chemical, the formula of which is represented by the toxin molecule that united with the cell. Then these cast-off receptors can and will unite with the toxins. This union takes place anywhere under favorable circumstances. In the circulation or in a test tube, this cast-off receptor then is the thing that has to do with immunity, in other words, it is the immunized body.

Nature's efforts then, in an infection, is to produce these immune bodies faster than the bacteria can produce their toxin and thus produce a temporary or lasting immunity to this infection. In serum therapy these immune bodies are formed in a foreign host, collected and injected into the body of the infected person.

Now these immune bodies are absolutely specific, they will not unite with another toxin than the one that produces them. This is why serum therapy is limited so. Most bacteria produces varying toxins under different conditions, consequently the immune body produced varies with the toxins. The one produced at one time being different chemically from one produced by the same bacteria under different circumstances.

In opsonic therapy we inject dead cultures of the bacteria producing the pathology presenting, to raise the opsonic index against that particular bacteria. Recent investigation has proven that at the same time we are producing specific immune bodies. In other words, instead of producing the immune bodies into a foreign host as in serum therapy, we are producing them in the infected organism. The proof of this has opened up an unlimited field in infectious diseases, a field that promises to solve most of our hardest problems. Friedman, of present fame showing what it will do in tubercular infections.

The detail of this work is too vast to even mention in a paper of this kind. But in closing I wish to speak briefly in regard to the agent we use, namely, the so-called vaccines.

Vaccines, or bacterins, are simply emulsions of dead cultures of bacteria. We speak of stock vaccines and autogenous vaccines. The latter being made from cultures grown from the personal infections as has been mentioned. The same bacteria under different environment produce different toxins. We have called these different strains of the same family in the past but I am coming to believe that it isn't so much a different strain as it is the different external forces or influences.

Now, if in obtaining a vaccine we are able to procure an emulsion of bacteria of the same toxin producing power as the one causing the condition of course we are going to produce an immune body that will have the greatest affinity for that toxin. Hence, the great advantage of the autogenous vaccine.

Another agent in this same field that is being urged upon the profession is one called by the commercial title of phylacogen. The claim of its superiority over the bacterial emulsion is that it is not a bacteria emulsion but a substance that contains the metabolistic elements of bacterial action. And as the pathology of a disease is due more to the action of these bacterial metabolistic substances than to the bacteria themselves an immune body produced by this foreign proteid is more efficient than one produced by the bacterial émulsions.

It is a beautiful theory but I have never been able to satisfy myself of its worth by the explanation and proof offered. For instance, we know that immune bodies are absolutely specific for the substance that produced them. We know and can prove beyond doubt that the same bacteria under different surroundings will produce different toxins, or metabolistic substances. In other words the metabolistic substances they produce in a flask of bouillon in an incubator or in the sun varies a great deal from the substances they produce in growing in different tissues in the body. This substance varies in the same strains in the same body attacked in the different tissues of the body, so even if the immune body produced by metabolistic elements is more efficient than one produced by bacterial emulsions its range of usefulness is too limited. Then, too, if the bacteria growing in the bouillon would convert all of the culture media into metabolistic elements I could place more confidence in it, as it is, most of these solutions are not solutions of substances of bacterial origin or productions but are solutions of bouillon, as can be proven by carrying a flask of bouillon to which no bacteria have been added through the same method of preparation, and injecting of this uncontaminated broth will give the same chemical reaction as the one containing the metabolistic elements.

When are vaccines indicated. In every infectious disease. And the doctor to-day must know something about these biological agents. It is true that many of you heard little of this in the days of your medical education but it behooves you to learn it now for the day is past when infectious diseases can be treated properly, even in the eyes of the laity, by purges and poultices and diet lists.

BELLADONNA.*

By J. T. Dixon, Owensboro.

Our materia medicas' tell us that belladonnae or deadly nightshade (as it is sometimes called) is indigenous of the mountainous districts of Europe and Asia and is cultivated in the United States. Its medicinal properties are obtained from the foliage and root. The official preparations are the solid extract, the tincture, the fluid extract, and its two alkaloids, atrophine and belladonnine. The latter rarely used because of its action being almost identical to that of hyoscyamine, but of secondary value. Then there is the unguentum, emplastrum and linamentum belladonnae, all of which are official, and once widely used with varying success. The popularity of these last named preparations is fast waning, however, because of other remedies and measures far more potent in their action. We now rarely see the emplastrum belladonna applied to the breasts for the purpose of checking the secretion of milk. Nor do we resort to the unguentum belladonna to soften or relax the os uteri in painful or difficult labors. Nor do we expect any real virtue from the linament except perhaps psychical or from the actual rubbing. Therefore what can be said of belladonna can be said of its principal alkaloid atrophine, for their actions are essentially the same. The other constituents of belladonna are so small in quantity and so inert in comparison to atrophine that we may pass them over without further mention.

Belladonna has a selective action upon the nervous centers. The more highly organized the nervous system of man or animal, the more susceptable to the drug. This is proven from the fact that rabbits can be fed exclusively upon the leaves for weeks until their very flesh is poisonous to man. They require a dose of atropine ten times as large as would be fatal to man, to kill them. All herbivorous animals can eat belladonna leaves almost with impunity. A child can bear a larger proportional dose than man. Consequently people who possesses an idiosyncrasy for this drug have sensitive nervous centers, the so-called nervous temperaments. The knowledge of this fact may sometimes save us trouble.

Belladonna acts in one way or another upon all parts of the nervous system as well as upon the unstripped muscles and secreting glands. Its action is quickly manifest in dry mouth dilated pupils and flushed face. It first slows the heart's action and serves as a cardiac stimulant increasing the blood supply to the skin causing warmth and flushing. Large doses, however, depress the vasomotor center and contributes to the final arrest of the circulation. Hence it is not to be used as a heart stimulant except in certain emergencies. It is a decided respiratory stimulant, this center being powerfully effected by the administration of this drug.

In consequence of this specific effect upon the respiratory center and its quick action on the heart with its certain and specific effect on the skin manifest in flushing and warmth; there is no other medicine so certainly indicated in excessive collapse or shock with failing pulse and respiration, with reduction of body temperature and cold perspiration as the hypodermic administration of atropine in large doses.

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*Read before the Owensboro City Medical Society.

Atropine is used in ophthalmic practice, both as a remedy and as a means of diagnosis when it is necessary to dilate the pupil sufficiently for a full view of the interior of the eye. There are other drugs more popular, however, notably, homatropin, because of its more transient effect.

It is still claimed by some that the instillation of atropine lessens intraorbital pressure. That it does not do this is now regarded as certain and must be used with caution in elderly people for fear of producing glaucoma.

Without doubt its greatest usefulness in opthalmic therapy is its positive mydriatic effect. In iritis it is of the highest importance to keep the inflamed iris still, relaxed and free from friction and pressure, also to hold it where it is will not be in danger of forming inflammatory adhesions. Atropine fulfills all these indications ideally and may be compared to the rubber adhesive scientifically applied to a badly sprained ankle, or a splint to a broken limb, in its usefulness.

Belladonna has been a panacea among the homeopathists since the foundation of their school. They use it more than any other one drug because of its application to many ills.

Belladonna has been used empirically for most any disease as may be seen by consulting some of the older medical works. This popularity may be from its sedative and antispasmodic effect as all drugs possessing these properties are prone to become popular.

Some of the ailments and conditions in which it is now extensively used, are the night sweats of phthisis and other hectic conditions. It is used in asthma, whooping cough, nocturnal incontinence in children and as an antidote to poisoning by opium. In this connection I wish to say, the combination of atropine with morphia in the hypodermic tablets so commonly used is to prevent the immediate sickness and depression and subsequent digestive disturbances, as well as to counteract the depressing effect on the respiratory center when morphine is used alone.

Belladonna is excreted by the urine unchanged. A few drops of urine instilled into the eye will dilate the pupil. It is reabsorbed through the bladder mucosa, hence, in cases of poisoning it is necessary to first draw the urine.

I would especially call this society's attention to belladonna as a sedative to the respiratory nerves as compared with opium; of course opium surely relieves spasm and cough, but at the same time it has a tendency to paralyze the respiratory center, thereby making it extremely hazardous in some cases where the temptation to use this drug is almost irresistable. While belladonna can be used with absolute safety because it stimulates the respiratory center and soothes the sensory and motor nerves of the bronchi and can be used with great confidence. Therefore it merits a more extensive use in our cough mixtures, especially with children who are very susceptable to opium in any form.

In acute belladonna poisoning, if seen within the first hour (because of its rapid absorption) tannic acid should be given, which forms an insoluble tannate, and the stomach washed. Then small doses of opium in some form, preferably morphine hypodermically, because of its antagonistic effect on the cerebrum, pupils, heart, respiration, arteries and kidneys. Opium being the physiological antidote.

NITROUS OXID AND OXYGEN ANAESTHESIA.*

By J. R. Boone, D. D. S., Bardstown.

The mind of the dental surgeon is clear as to his right to put into practice everything taught in his alma mater, except general anaesthetics. He is taught prosthetic dentistry and restores lost organs; he is taught orthodontia, and corrects irregularities of the teeth; he is taught materia medica and therapeutics and prescribes constitutional remedies; he is taught the theory and action of general anaesthetics—but employs them not. He hesitates not a moment to inject cocaine, hypodermically into gingival tissue, a procedure that is fraught with many, many times the risk he would be taking in administering nitrous oxid, gas or somnoform. Surely, if the dental diploma is worth anything, if it means anything, if there is any potentiality in it, it carries with it the right to do those things in the office of the professor which are taught in the curriculum of his alma mater. In all other departments, dentistry has made wonderful progress, outstripping almost every other profession in the matter of advancement; yet, in this particular branch, anaesthetics, which should have by right of discovery and inheritance, excelled all other specialties of medicine, the dentist has been a laggard and a coward. By right of discovery and inheritance because the greatest benefactor the human race has ever known, Dr. Horace Wells, the discoverer of surgical anaesthesia, was a dentist. That was December 10, 1844, and nitrous oxide gas was used. We have made some changes since then and the greatest advancement in general anaesthetics in recent years has been the development and use of nitrous oxide and oxygen in major surgery, and in general surgery we have seen, within the past few years, nitrous oxid and oxygen came from a very limited use to one of almost unlimited application.

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*Read before the Nelson County Medical Society.

As I have stated, nitrous oxid is the product of the dental profession. It was discovered by a dentist and the technique of administration has been worked out mainly by dentists. Until quite recently its use was almost entirely confined to dentistry, but at the present time it is fast taking its rightful place in general surgery and is of vast interest to the medical men to-day. In taking up general anaesthetics we first employed nitrous oxid with varying percentages of air, but we found that the character of nitrous oxid anaesthesia was entirely changed by the substitution of pure oxygen for the air. As a result of this change, nitrous oxid and oxygen has been given a prominent place in surgery to-day. When we consider the fact that nitrous oxid has been administered mainly by inexperienced men, to patients under all conditions, and without proper preparation, it only accentuates the fact that nitrous oxid is the least toxic agent that has ever been discovered for producing general anaesthesia. This being the case, many men have carried on research work with nitrous oxid alone, with oxygen, and with other general anaesthetics, in order that a safe and efficient anaesthetic might be had for all operative measures. Oxygen is the supporter of life, but nitrogen oxid gas is not. Priestly, who discovered both nitrous oxid and oxygen, reported some very interesting experiments. He placed small animals under two receivers, one filled with oxygen and the other filled with air. The death of those in the receiver filled with oxygen transpired without convulsions while the death of those in the receiver containing air was always accompanied by convulsions. The heart retains its irritability for hours when death takes place in oxygen, but this is not the case when death takes place in air. Nitrous oxid when inhaled does not resolve itself into its component parts, but remains as nitrous oxid. If you add pure oxygen to nitrous oxid gas and then inhale it, something very different happens. Some of the oxygen inhaled passes into the blood to form a loose chemical combination with the red blood corpuscles—oxyhemaeglobin. Life in this way can be supported indefinitely, the oxygen supplying the food for the blood, which in turn feeds the tissues, while the nitrous oxid is anaesthetizing the patient. Is it not reasonable, then, that I should recommend the use of nitrous oxid plus oxygen in all cases in which nitrous oxid is indicated. With nitrous oxid alone the period of available anaesthesia is but thirty seconds; with nitrous oxid and oxygen, you can operate as long as you wish. Hewitt says, "With pure nitrous oxid, when all air is excluded, the average inhalation period is fifty-six seconds; at the end of that time, fresh oxygen must be admitted or permanent asphyxia will result, while with nitrous oxid and oxygen, in proper proportion, there is no asphyxia." All deaths arising from nitrous oxid are supposed to have been caused by asphyxia. The muscular spasms are jacitation so common under nitrous oxid rarely if ever occurs under nitrous oxid and oxygen. There has been but very little division of opinion in regard to nitrous oxid being the safest anaesthetic known, either in the dental or medical profession, but nitrous oxid as a general anaesthetic has been limited, owing to the peculiar properties of this agent. It is a gas and not a liquid (only being a liquid under certain conditions) and is far more expensive, cumbersome and difficult to handle than most of the other anaesthetic agents. The physical properties of nitrous oxid are such that in order to obtain that degree of saturation in the blood necessary to produce surgical anaesthesia, this gas must be given at least 80% pure. With such amount of restriction of atmospheric air, the asphyxial factor enters into the procedure, and this has been the main cause why nitrous oxid has been used mainly for operations of short duration. By the use of pure oxygen with nitrous oxid asphyxia can be overcome.

Let us now consider for a few minutes the effect of nitrous oxid and oxygen on the organism. The gas on entering the lungs is distributed throughout the alveoli and is taken up by the blood, then passes to the lymph. As the nitrous oxid comes into contact with the delicate nerve cells and action is brought about that causes a temporary cessation of their functional integrity. The most highly organized centers are first and chiefly affected; but gradually all succumb; until the respiratory and cardiac centers are paralyzed. The rate of absorption of nitrous oxid and oxygen will depend on numerous conditions namely, temperature of the gas, temperature of the blood, pressure of the gas, rate and depth of respiration, and rate of capillary flow through the walls of the alveoli. The elimination of nitrous oxid and oxygen takes place principally through the pulmonary blood stream and respiratory tract. On the withdrawal of the anaesthetic the alveoli tension falls below the blood tension, and elimination commences. The rapidity of elimination will depend upon the freedom of the air tract, the depth and efficiency of respiration, for on this good circulation depends. If a good respiration and circulation are present on the withdrawal of nitrous oxid and oxygen, recovery takes place in a very few minutes. The patient will show symptoms of recovery within 60 seconds after a profound anaesthesia which may have lasted two hours, and will be conscious within three minutes. At times when poor circulation and respiration are present, recovery will be much slower, and if there has been much surgical shock produced, recovery will be still slower. Recovery may be greatly hastened by administering pure oxygen every few inhalations.

Some years ago a series of experiments with reference to the use of chloroform and ether on animals, were carried out with a view of determining the changes that take place in the blood during anaesthesia. It was found by these experiments that there was a loss in the antibodies or ferments of the blood and that there was a diminished resistance to the bacteria, such as agglutination of the precipitins and other substances could be found in the antibodies in the blood. It was found that these animals went into collapse, and that shock is induced very early in animals that have a lowered condition of the blood, and there was a marked diminution in the antibodies, the ferment and other substances. They carried on a number of experiments showing these changes, and also the effect of ether and chloroform on the serum itself, and they came to the conclusion from these experiments that there were two conditions met with, one was an actual direct chemical effect on the serum, and the other biological changes took place; and later, in the laboratory, they had an actual demonstration of the exact condition which takes place in these animals in the production of asthenia, loss of appetite, and acute dilatation of the stomach. Dr. Graham, of Chicago, in his experiments, has shown that ether affects phagocytosis, thereby lowering the immunity of the patient from shock and infection. Nitrous oxid does not affect the phagocytic action of the blood, so that a patient anaesthetized with nitrous oxid has a higher immunity from shock and infection than has a patient to whom ether has been administered.

EFFECTS OF NITROUS OXID ON THE BRAIN.

It is an interesting and a very instructive study to observe the effect of nitrous oxid on the brain, and also the effects of the oxygen. We have noticed in cases which I shall report, that when the patient inhales pure nitrous oxid, the brain begins to lose its natural pinkish color in a very few seconds. If the inhalation is continued without air or oxygen, the brain continues to become darker. If this is continued to the third stage of anaesthesia, the brain will have the appearance of stagnant blood and will be greatly dilated. The dilatation is concommittant with the discoloration, and if there is much cyanosis present the brain will be greatly discolored, and will protrude through the opening in the skull. What is the cause of this discoloration and dilatation? Is it the effect of nitrous oxid or is it simply the asphyxial element caused by anoxemia?

The cause of this change was clearly shown in a case which I will report. Patient, a lad age 10, while playing on a fence, in some manner fell off, landing on his head. The bruise was near the left side causing an epidural hemorrhage. The pupil of the right eye was extensively dilated, and the muscles of the same eye were paralyzed. There was not even a scalp wound. He was in a comatose condition, however, when picked up, and continued in this condition for about 24 hours. An operation was decided upon, but it was undertaken with grave fears on account of an exceedingly weak, thready pulse, and rapid, jerky respiration. Anaesthesia—the administration was started with about eight parts of oxygen, and 92 parts of nitrous oxid, increasing the oxygen gradually until 12 parts of oxygen and 88 parts of nitrous oxid were being given at the end of 60 seconds. The patient passed into complete surgical anaesthesia within that time. Respiration became better, the pulse became less rapid, and the tension much improved; in fact, the patient was in far better condition than before the anaesthetic was started. An opening the size of a silver dollar was made in the skull, and a large quantity of clotted blood was removed. As everything was going along nicely, the following experiment was carried out. On decreasing the oxygen to about three parts, with 97 parts of nitrous oxid, in about ten seconds a change in color was noticed in the brain. At almost the same instant a dilatation of the brain occurred. As the anaesthesia was continued, the brain gradually became very dark and dilated to the extent that the entire cranial cavity was soon filled, and the brain commenced to protrude through the opening in the skull. Oxygen was increased at this point to about one half the mixture, and after only four inhalations it was noticed that the brain was receding and the natural color was restored rapidly. The brain had regained its normal color and position within ten or twelve seconds. This discoloration and dilatation were concommittant, and could be brought about at will by increasing or decreasing the oxygen.

All of the brain operations have shown this phenomena. If the anaesthesia is accompanied by cyanosis the brain will be not only dark in color, but dilated as well. Consequently I affirm that the dilatation and congestion were not due, to the anaesthetic action of nitrous oxid, but constitute an entirely asphyxial manifesation. The asphyxial factor may enter into any anaesthesia, and if it does, the afore mentioned phenomena will be present, whether the anaesthetic agent employed be chloroform, ether or nitrous oxid. It is more apt to accompany nitrons oxid than any of the other anaesthetic agents, from the fact that nitrous oxid, as has been explained, must be administered from 80 to 95% pure. The asphyxiation that we have with nitrous oxid anaesthesia is not dangerous, however, as compared with that produced by ether or chloroform. In brain surgery, nitrons oxid alone, or administered with air, is not a good anaesthetic, but nitrons oxid with varying proportions of oxygen, keeping a good color, is without question a good and safe anaesthetic in brain surgery.

Dr. Charles K. Teter, of Cleveland, has had a wide clinical experience with nitrous oxid and oxygen, having administered it over 17,000 times for surgical and dental operations. Here are some of his cases showing special points of interest:

Patient, age 32, very nervous; somewhat emaciated; valvular insufficiency; compensation fairly good. Operation, hysterectomy, appendectomy. Hemorrhage profuse and troublesome. The uterus contained a fibroid tumor weighing 22 pounds. Anaesthesia, induced in two minutes; some reflex effect on respiration when incision was made, but no other movement of the patient. Profound anaesthesia was easily maintained with about 88 parts nitrous oxid and 12 parts oxygen. This amount varied somewhat, but was about the average. Anaesthesia was maintained without one breath of air or other anaesthetic. Pulse at beginning was 98, at the close just before the anaesthesia was removed, 112. General condition good under the circumstances. Post-operative condition and history: Consciousness was regained within three minutes. Patient vomited during recovery only; no more sickness. Length of operation, three hours and four minutes.

In looking over some cases to ascertain the age, I find one which I think will be of interest. It is that of the youngest person to whom nitrous oxid and oxygen was ever administered. Patient, a baby boy, whose birth was induced at the eighth month, being at the time of the operation three months old. Operation, circumcision and amputation of toe. Anaesthesia, no inhaler was used for this case, but instead, nitrous oxid and oxygen was forced through a tube which was held in front of the patient's mouth. Narcosis was induced in about forty seconds, with a mixture of about five parts oxygen and 95 parts nitrous oxid. There was a certain amount of adulteration caused by the non-exclusion of the air, but, notwithstanding this, it was soon necessary to increase the percentage of oxygen in order to prevent muscular jactitation and clonic spasms. Perfect anaesthesia was maintained to the completion of the operation, about thirty minutes. On the removal of this attenuated vapor, recovery took place within forty seconds. The child seemed as bright as ever, and the sympathetic mother in her anxiety, put the child to her breast at once and nursed it without any ill effects. Dr. Teter has administered nitrous oxid and oxygen to over 5,000 children, principally for removal on tonsils and adenoids, and dental extraction. For these oral operations a nasal inhaler is employed, and profound anaesthesia is maintained until the completion of the operation. Available anaesthesia is at the operator's command, and may be continued until the operation is completed, be that in two minutes or two hours.

We have learned that nitrous oxid warmed is superior to nitrous oxid cold as an anaesthetic. An application formerly used when teeth were to be extracted or for surgical operations had a thermometer in the mixing chamber and we knew the temperature when nitrous oxid left that chamber if not when it entered the lung. Although we knew that nitrous oxid as it passed out of the rubber bag was cold, we did not realize till the test was made that the cold was so intense as it passed into the lung. For an ordinary case of extracting in which eight or nine gallons of the gas is consumed the thermometer falls to 20 degrees Fahrenheit or twelve degrees below the ferezing point. The gas passes first into the rubber bag, then into the mixing chamber, containing the thermometer, and from there through the tubing into the inhaler and the nose. How much the temperature of the gas is raised passing through four feet of tubing the nares and pharynx, rapidly inhaled, I do not know. But I do know that the mucous membrane over which the gas passes so rapidly become chilled, and that we are not warranted in turning such a cold draft into the bronchi and lungs. With the gas warmed, the patient passes into as quiet and as beautiful anaesthesia as we obtain with somnoform. No yelling, screaming and laughing so common with the usual method and by admitting a small quantity of oxygen, no discoloration or asphyxia. I may be mistaken, but it is my belief that much of the struggling, the wild dreams and horrible nightmares experienced so frequently during nitrous oxid anaesthesia are caused by the cold nitrous oxid stimulating the nerves of the bronchi and lungs and they in turn reflexly communicating with the central nervous system. Most of the new anaesthetic appliances have a warming device through which the nitrous oxid passes, raising the temperature to about 85 or 90 degrees Fahrenheit. If all anaesthetics were inhaled at a temperature equal to that of the body the anaesthetic agent would be more quickly assimilated by the blood and more easily eliminated from the system and would do much to maintain a normal body temperature throughout the period of anaesthesia.

Having the gases so an even flow can be obtained, it is a comparatively simple matter to induce and maintain an even narcosis. The nitrous oxid is allowed to flow all the time, the amount needed depending upon the type of the patient; but when the proper amount is being used that produces the desired result in each individual case, this need not be changed throughout the entire operation. There should be a small stream of oxygen flowing all the time, as well as nitrous oxid, but the smallest variation in the flow of oxygen will control the narcosis. An even or an uneven anaesthetic state will be produced by an even or an uneven flow of oxygen. In fact, the success of an anaesthetic produced by nitrous oxid and oxygen will depend upon the accurate judgment of the flow of oxygen.

The aged are good subjects for nitrous oxid and oxygen anaesthesia and usually take it well. It is necessary to watch them closely, to prevent excessive blood pressure and to keep a good florid color, for the effect of this anaesthetic is very rapid in such cases. A great many aged people have taken this anaesthetic, some presenting no abnormality, except that which is to be expected in the aged, but others have taken it where there was manifested a degenerative process of an active and chronic nature, but satisfactory anaesthesia has been obtained with nitrous oxid and oxygen and I have had no trouble with this class of patients.

Extreme cyanosis should never be produced in these cases because the blood pressure is enormously increased in an extreme cyanotic condition. The walls of the blood vessels in old patients, as a rule, are not in condition to stand this excessive pressure.

I will not go into details as to the technique of administering nitrous oxid and oxygen further than what has been said. I have endeavored to set before you lucidly some facts pertaining to the scientific administration of nitrous oxid and oxygen as a general anaesthetic, and hope that I have shown it to be the safest and best anaesthetic for all dental operations, with a few modifications, the best anaesthetic in general surgery. Time will not permit further consideration of this subject, and I have only been able to present a few fundamental principles involved in this wonderful work, which offers an unlimited field for research work and improvement. I hope I have been able to elicit your interest in this wonderful anaesthetic, which is one of the greatest blessings to humanity, so that you will not only be able to accomplish much greater things in your practice but that humanity may be greatly benefitted.

COUNTY SOCIETY REPORTS

Crittenden—The Crittenden County Medical Society met in the office of Clement & Fox, at Marion, January 13, 1913. Meeting called to order by President J. R. Perry. Member spresent: J. R. Perry, T. Atchison Frazer, I. H. Clement, V. R. Fox, and J. E. Fox.

The following officers were elected for the year: President, V. R. Fox, of Crayne; Vice President, E. E. Newcom, of Repton; Secretary, J. Ernest Fox, of Marion; Delegate to State Association, T. Atchison Frazer, with J. R. Perry, Alternate.

Next meeting Wednesday, February 5, with the following program: T. Atchison Frazer, "The Intestinal Parasites"; I. H. Clement, "La Grippe"; and J. R. Perry, "Pneumonia."

J. ERNEST FOX, Secretary.

Harrison—The Harrison County Medical Society held its regular monthly meeting February 3, 1913. The attendance was not up to the standard. Drs. Carr and Petty drove thirteen miles through a blinding snow storm to attend the meeting. The society unanimously agreed to pay $3.00 annual dues to the State Association.

W. B. Moore reported a gall stone case with icterus of six years' duration. Operation revealed large stone in common duct and eight in the gall bladder. Recovery uneventful.

M. M. McDowell reported a case of a man who was struck by a locomotive. He was picked up unconscious and remained so for several hours. It was very difficult for a time to diagnose between cerebral compression and concussion. Only slight external abrasions about the face. Case proved to be concussion; patient made rapid recovery.

W. H. McClure read a paper on "Placenta Previa." Discussion opened by Dr. Rees followed by Drs. Wells, Moore, Singer and Petty.

Adjourned to meet March 3, 1913.

W. B. MOORE, Secretary.

Knox—The Knox County Medical Society met in regular session in the office of Wm. Burnsides, at 11 A. M., President W. B. Dozier, presiding. The following physicians were present: W. B. Dozier, Wm. Burnside, G. H. Albright, L. Logan, R. L. Lattimore, S. C. Jones, B. P. Jones, J. W. Parker, J. S. Lock, J. G. Tye, W. C. Black, T. W. Jones, B. F. Herndon, Chas. L. Heath.

G. H. Albright read a paper on "Medical Ethics As They Are and As They Should Be."

The paper was discussed by all present, bringing out some of the conditions as found in our county.

J. S. Lock was the next on the program and talked on "The Relation of the Doctor to the Public," which was, as all of Dr. Lock's talks are, very interesting and was discussed by most of the doctors present.

The Knox County Medical Society is getting down to work better than was expected by some of our members. As those who have ever visited this section of the State know, it is very bad traveling during the winter months, but the most of our members seem to count on being at Barboursville every fourth Monday, which is as it should be.

CHAS. L. HEATH, Secretary.

Oldham—The Oldham County Medical Society met on February 6, 1913, at La Grange.

C. N. Goldsboro reported an unusual case of "Appendicitis."

R. B. Cassaday reported a suspected case of "Appendicitis."

E. D. Burnett reported a case of sudden death in a patient sixty years of age.

J. L. Quesenberry, R. B. Cassaday and R. B. Pryor were elected censors to serve one, two and three years respectively.

Plans were made known concerning a popular lecture to be given on the evening of the 12th of February in the High Auditorium by A. T. McCormack.

Half the physicians in the county have paid their 1913 dues. There is a splendid outlook for enlisting every man in the county for 1913.

E. D. BURNETT, Secretary.

Oldham—On the evening of February 12, 1913, at 7:30 o'clock in the High School Auditorium at LaGrange, a popular lecture with stereopticon views was given by Dr. A. T. McCormack, of Bowling Green.

The occasion was set in motion by a stirring chorus by the High School pupils led by Prof. Caplinger.

Dr. McCormack's lecture was scientific, practical and full of wisdom, and was enthusiastically received by a well-filled house. The doctor showed himself a most worthy son of a worthy sire.

After the lecture Dr. Heizer gave a brief and interesting word picture of the noteworthy progress of our Vital Statistics work in Kentucky.

The lecture was held under the auspices of the Oldham County Medical Society. Our gracious president, J. H. Speer, was in the chair and spoke in eloquent terms of the profession and the speaker of the evening.

Before the lecture, Drs. McCormack and Heizer and the Oldham County doctors were entertained at six o'clock dinner at the Park Hotel by Dr. E. D. Burnett.

The entire evening was a notable one and forecasts bright shadows of better things in the way of progress and public health in the county.

E. D. BURNETT, Secretary.

Rowan—The Rowan County Medical Society met in the office of J. Wilson, in Morehead, on the 4th day of February, 191'. Owing to inclement weather the attendance was small. There were present Drs. J. Wilson, F. M. Thomas, G. C. Nickell and A. L. Blair.

The meeting was called to order by F. M. Thomas, the President. The election of officers being first in order, F. M. Thomas was elected President; G. C. Nickell, Secretary; A. L. Blair, First Vice President; F. M. Carter, Second Vice President; T. A. E. Evans, A. W. McCleese and J. Wilson, Censors; G. C. Nickell, Delegate to the State Meeting and A. L. Blair, Alternate.

J. Wilson made a motion, seconded by G. C. Nickell, asking the Chairman to appoint a Committee to draft resolutions, endorsing the good work done by the State Board of Health and the State Medical Association, whereupon the Chair appointed J. Wilson and G. C. Nickell to prepare said resolutions.

The Committee reported as follows:

RESOLUTIONS.

Resolved, That we most heartily endorse the State Board of Health for their tireless efforts toward stamping out disease and promoting the health of the people of this Commonwealth, and that we congratulate them upon their success in establishing an efficient Bureau of Vital Statistics eradicating hookworm, spinal meningitis, typhoid fever, consumption and other fearful diseases from certain sections of the Commonwealth, and, also, on the maintainance of the State Department of Bacteriology at Bowling Green.

Further, we commend said Board for their wise and economical management of funds set apart by the State for the support of their work, and we regard said fund as the wisest expenditure made by this Commonwealth.

The resolutions were read and unanimously adopted.

G. C. Nickell offered a resolution which was unanimously adopted:

That all former medical societies, existing in

Rowan county are void and that this society be known as the Rowan County Medical Society.

The society voted unanimously for the $3.00 fee to be paid to the Secretary of the State Medical Society.

J. Wilson reported a case of "Knee Joint Infection," which was discussed by all present.

G. C. Nickell reported a case of "Pneumonic Phthsis," which was discussed by Drs. Thomas, Blair and Wilson.

After other interesting discussions, the society adjourned to meet in the office of G. C. Nickell on the 6th day of March, 1913.

G. C. NICKELL, Secretary.

Scott—The Scott County Medical Society met on February 27th, 1913, and had an excellent meeting and some good papers, with hearty discussion.

L. E. Downs read a paper on "Chronic Rhinitis and Its Effects."

A. B. Coons read a paper on "Medical Treatment in Enlarged Prostate."

Jno. A. Minish was unanimously elected a member of this society, joining us from Fleming county.

E. C. BARLOW, Secretary.

Whitley—The Whitley County Medical Society met at Corbin, February 19, 1913; there were several members present and some interesting papers and talks. The county society here decided to endorse the action of the State Meeting and voted that dues be $3.00; also our regular meetings were set for a fixed date, the first Thursday of every other month (which was the best we could get) Williamsburg and Corbin alternating in having the meetings, the next meeting to be at Williamsburg, Thursday, April 3.

C. A. MOSS, Secretary.

Wolfe—The Wolfe County Medical Society convened at the office of B. D. Cox, Campton.

On motion, the ballot was spread, the following officers being elected:

W. T. Center, President; G. M. Center, Vice President; B. D. Cox, Secretary and Treasurer; W. T. Center, Delegate to State Association.

W. T. Center, D. H. Kash, B. D. Cox and Judge W. B. Duff, as local board of health for Wolfe county, apointed G. M. Center as health officer for Wolfe county, for the ensuing year.

B. D. COX, Secretary.

BOOK REVIEWS

Diseases of the Heart and Aorta—By Arthur Douglass Hirschfelder, Associate in Medicine, Johns Hopkins University, a book of 720 pages, 344 illustrations, second edition, price $6.00, published by J. B. Lippincott Company, Philadelphia. In this book, the writer has succeeded in correlating the phenomena observed at the bedside and facts learned in the laboratory in order to show how each supplements the other in teaching how to observe a patient and to direct the treatment. Part 1, has to do with the general causes and methods of diagnosis; Part 2, diseased conditions due to diffuse pathological processes; Part 3, diseased conditions due to localized lesions; Part 4, functional diseases with the anatomiacl lesion. The illustrations are wonderful in their explanation and form an invaluable part of the work. It merits a ready sale and will doubtless prove to be more popular, if possible, than the first edition.

Cardio-Vascular Diseases—By Thomas E. Satterwaite, published by Lemcke & Buechmer, 32 W. 27th Street, New York. This little volume of 160 pages, admirably indexed and profusely illustrated, contains a great deal of reliable information as to diagnosis, symptomatology and treatment of this class of disease and gives one a fairly complete idea of the kind of instruments that may be used and the results that may be expected therefrom.

Safeguarding the Special Senses—By Henry Reik. F. A. Davis Company, publishers. This is a little book of 120 pages dealing with the general advice regarding the use and preservation of the eyes, ears, nose and throat. It is a readable book and of real value within its limitations.

Transfusion of Blood.—Floreken reviews the experiences in this line that have been reported in German literature and describes five cases from his own experience. He ascribes the benefit to stimulation of the bone-marrow, and regards the prospect of the measure as very promising. There was no tendency to embolism in his or Holtz' cases, and except for a single slight rise of temperature in one instance there was no fever at any time, but there were signs of hemolysis in two of his five cases and in future he would be forewarned against this. The Carrel technic is preferable, perhaps, but the general practitioner would find it simpler and easier to connect the two vessels with an artery taken from a calf or dog and prepared with formaldehyde and paroffin. His patients were four women between 21 and 40, and one man of 26. The latter had pernicious anemia and the immediate effect of the transfusion was most striking, the pallor yielding to a rosy tint. The hemoglobin had been 20 per cent. before but was 40 per cent. the next day and the patient has been better since. The anemia in the other patients was secondary to hemorrhage or chlorosis and all were promptly restored to health.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 8 APRIL 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

TUBAL PREGNANCY.

By S. T. YEATTS, Louisville.

Since there has been so much written and published in the last few years upon this subject I feel that some excuse should be rendered for this paper, namely that on account of increasing numbers in our practice, we feel that the condition must be more prevalent than in former years.

It should be understood that I use the term advisedly to include all forms of ectopic gestation, as all these conditions in their incipiency are tubal, and any other condition found at operation is only a transplantation of the tubal mole. For example, such conditions as; intraligamentous gestation, the tube at first ruptured and its contents were extruded into its folds where the further development had taken place. I have never seen a case of ovarian pregnancy, and some operators go so far as to deny that such a condition is possible, but I understand how one might become a tubo-ovarian by attachment of the ampulla to the ovary where its future growth has occurred. We have seen one such condition in the last two years.

Peritoneal development may take place in like manner by rupture of the tube with expulsion and attachment almost anywhere else, but usually in some portion of the lower abdominal cavity.

Embryonal development may be arrested at any stage, or it may go on to full term at any of its new sites of transplantation, but anatomical conditions are such that full time tubal development is an impossibility.

The excursion of the fertilized ovum may be arrested at any point in the tube from the ampulla to the uterus. There seems to be three points of preference named in order of most frequent occurrence, first, near the ampulla, next the isthmus and last the uterine end of the tube.

The time is too limited to go into details of all the conditions encountered at operations; hence, I will take up only the important features in order to elicit a free discussion of the subject in general. The arrest of the ovum at or near the ampulla is the most favorable to the patient, yet one of the earliest to give trouble, which often takes place between the third and fifth week, usually resulting in tubal abortion, which may or may not cause serious symptoms, depending of course, upon intra-abdominal hemorrhage. The permanent arrest of embryonal development at the time of tubal rupture or abortion where there has been but little hemorrhage, the patient may make a good recovery without operation; we have seen one such case, though even in early extrusion, the hemorrhage and pain may be very considerable, and immediate operation may be necessary.

The arrest of the excursion and the development in the middle or isthmic portion of the tube is the next in order of frequency, and gives much more dangerous symptoms than the first on account of the greater development of the musculature of the tube at this point, which allows the embryonal growth to proceed further before rupture, a period of from four to six weeks, and the normal and new blood supply consequently is very materially greater; hence, there will be greater hemorrhage on the occurrence of tubal rupture.

When the tubal obstruction is near the uterus, the same can be said of the dangers as were mentioned in the last case, with this exception, in rare instances the pregnancy may become interstitial, or the extrusion may be completed by tubal abortion into the uterus and expulsion therefrom making a complete abortion with good results for the mother.

ETIOLOGY.

Anatomical abnormalities are bound to be the direct cause of ectopia and these may be congenital or acquired. The congenital conditions that might be mentioned would be diverticulae and an abnormally small lumen of the tube. The acquired conditions, such as atresia resulting from twisting or torsion might come from bands of adhesions resulting from disease or malposition of the uterus, or diseases of the tubal mucosa, such conditions that will occur from gonorrheal inflammation, or infections resulting from ordinary abortions. But cases have occurred in our experience in which no history of any sort of trouble had ever existed; one case that I remember had always been perfectly healthy up to the time of her tubal pregnancy on the right side. At that time there could not be demonstrated any bacteria on microscopical examination of the tubal contents or secretions from the vagina; yet, within one year, she came to us again for operation for tubal pregnancy on the left side, which tube had every appearance of being perfectly normal at the first operation. It has been suggested by Lawson Tait that a reverse peristalsis will cause the condition. In a general way, it might be said that anything which would interfere with a normal lumen of the tube might bring about tubal pregnancy.

SYMPTOMATOLOGY.

The very early symptoms, particularly those of the first month or six weeks, or before rupture, could not be other than normal pregnancy. The surgeon, so well as the family physician rarely ever sees any of these cases until rupture takes place, and not then usually until alarming symptoms occur from pain and hemorrhage, but you will often get the history that the woman has gone ten or fifteen days over her normal menstrual period, and as a profuse bloody uterine discharge begins with tubal rupture, the family physician, and woman, too, very naturally suspect an ordinary abortion, but there is one thing that should be remembered at this point, there is no ordinary abortion without more, or less, profuse hemorrhage from the uterus, more than in tubal rupture, and there are many clots, while in tubal abortion or rupture, there are no clots.

In the formation of the membranes in tubal pregnancy, it is a known fact there are none developed from the mother's side in the tube, but there is one formed in the uterus just the same as in normal gestation, and when tubal rupture, or abortion takes place, this membrane in the uterus comes away in a bloody discharge not unlike the normal lochial discharge following full term labor.

Digital and bimanual examination will reveal a large tube on the affected side and a doughy mass in the cul-de-sac, or broad ligament, if rupture has already occurred; then the uterus is freely movable, except in cases of large hematocele in a broad ligament, and the patient has no elevation of temperature, and if she has lost much blood, she may have a subnormal temperature.

DIFFERENTIAL DIAGNOSIS.

Between an enlarged tube from inflammation is easy, because you have no temperature in the former, while in tubal inflammation temperature will run from 100 to 103 degrees F., then, too, the uterus is freely movable in the first, and in inflammatory conditions, it is nearly always fixed. In tubal pregnancy there is usually no pain before rupture, while in tubal inflammations there is nearly always constant pain. After rupture of the tube, the pain is much more severe than that due to ordinary inflammation. It is always noted that the uterus is enlarged in tubal conception just the same as in uterine gestation until the second month, but after that time, if ectopic pregnancy continues, the uterus does not further develop, and there is rarely any change in the size of the uterus from tubal inflammation.

While there are paroxysms of great pain following tubal rupture and hemorrhage, yet there have been cases noted where the symptoms were those of sudden collapse due to hemorrhage without much pain. Where pain is suffered, it may be intermittent, according to the progress of the expulsion of the foetus, and the severity of the hemorrhage occurring at each paroxysm. We have seen more than one case of this kind.

Diagnosis will depend upon the history of the delayed menstruation, the character of the onset of symptoms, the absence of an elevation of temperature in the presence of tubal enlargements, the sudden collapse of the patient, due to internal hemorrhage from rupture. The very intense cramping pain in the lower abdomen, which, though intermittent, is not like the pain due to uterine contractions found in a patient menstruating, or suffering from premature labor. The patient herself will tell you that the pain is more general over the entire abdomen. The presence of a bloody vaginal discharge without clots. On digital examination you will find an enlarged tube on the affected side, which will be more or less sensitive, and if rupture has taken place, the hematocele can be felt in the cul-de-sac, or broad ligament. In making digital examination in a suspected case, the surgeon should be very careful, because a rough examination might cause a rupture of the tube with a dangerous hemorrhage. Double tubal pregnancy is not uncommon; we had one recently.

Prognosis is always serious and very doubtful; though spontaneous recovery is not uncommon. While some cases do get well, if left to nature, yet many more will recover if operated upon, and I think that this is one condition that even the general practitioner will admit is in the list of surgical diseases, at least after a diagnosis has been made. In 278 cases for which there had been no operation, collected by Schauta, Martin and Orthmann, 187, or a little over two-thirds died; while 507, or 80 per cent. of 636 cases operated upon survived.

Out of 22 cases at full term . collected by Kelly, covering a period from 1809 to 1881, there were only two recoveries of the mother, yet nearly all of the children lived from a few minutes to four years, except one that was a case operated upon by Lawson Tait in February, 1880, lived 15 years, and this case is the only one that I have been able to find that lived more than 4 or 5 years. From 1881 to the present under improved methods, there has been a gradual diminution of mortality that has made the operation less dreaded and more frequently performed. Out of the last 20 of the 77 collected by Kelly, 15 recoveries are noted of the mother, and most all of the children were delivered alive.

Treatment will depend largely upon the patient's condition at the time diagnosis is made. All cases are surgical from that moment, but all may not be in a condition for operation. I remember one case we had, not long since, a woman had a well-defined pneumonia coincident with tubal rapture and serious internal hemorrhage. I think it is safe to say that all things being considered equal, every patient should be subjected to operation at the very earliest possible moment. Preferably before tubal rupture or abortion takes place; this would be the most favorable time for the patient, but unfortunately the surgeon, or the family physician either, rarely ever sees one before that time.

I have dealt largely with the subject as simply tubal, but we must take into consideration the fact that in our treatment, we may not see a case until after transplantation, and then may be during any period of embryonal development. Cases have been known and the woman operated upon, and the child removed many months and even years after death, at full term. It is thought wise that if the child is viable at or near the time of full term, it would be better to wait until the death of the foetus, and the cessation of the blood supply to and through the placental attachment, then the sac and placental tissues could be easily removed. But this has its objection, namely, the loss of the child, but it is argued that it has never been observed that one of these children ever lived more than five years, (with few exceptions) and that they are always mentally and physically defective, and for this reason the mother's life should be most considered, and her safety would be better guaranteed by waiting so that the foetus, sac and placental tissues could then all be removed at one and the same time. If operation is instituted at any time during the viability of the child, there is always great danger in trying to remove everything, and it is considered best after removing the foetus and as much of the cord as is possible, to suture the sac to the abdominal wound and pack with gauze and the placental tissue allowed to slough and be discharged by piecemeal, or go back in 15 or 20 days at a second operation and remove them all en mass, after the loss of their blood supply. Every case is a law unto itself, so far as what is best to be done with the sac and afterbirth at the time of operation, because frequently the attachment may be pedunculated in such a way that the pedicle can be ligated and everything removed at the first operation without doing violence to any of the important structures of the mother. Of course, if the attachment cannot be enucleated without dangerous hemorrhage, or without doing violence to maternal structures, such as the intestines, inaccessible blood vessels, etc., it is best to leave the wound open for drainage and later removal, as has already been stated.

In simple and early cases before transplantation, the operation is simply that of salpingectomy, if in the early stages before rupture, but if rupture has already taken place, the surgeon will have the added duty of removing immediately all the blood so nearly as possible with warm wet sponges.

DISCUSSION.

Harry J. Phillips: It is not my intention tonight to discuss the etiology or pathology of this very important condition, but I am glad to discuss it from the standpoint of the general practitioner, and what I shall say I shall endeavor to recall from my own experience at the bedside.

It is all very interesting, after the surgeon has opened the abdomen and removed the sac, to find out whether it was a tubal rupture or a tubal abortion; whether rupture has taken place into the layers of the broad ligament or into the general peritoneal cavity, but all this has no bearing on the treatment of the condition prior to operation, and at best we can only surmise what has occurred until the abdomen has been opened.

For practical purposes at the bedside, I would divide this condition into two groups. First, that in which the woman is suddenly stricken with severe abdominal pain and profound collapse; second, that in which the patient presents premonitory symptoms with occasional faintings, abdominal pain and uneasiness, and hemorrhagic vaginal discharge.

In considering the first group, upon questioning the woman we may or may not elicit a history of a period missed; it depends upon the age of the pregnancy and what gynecologists term the malignancy of the ovum. These cases are usually so striking and the clinical picture so clear that the diagnosis is never difficult. It is based upon the history of the case and the appearance of the patient, because upon abdominal examination nothing of any importance can be discovered after the ruptured tube has collapsed and softened, and the effusion of blood into the peritoneal cavity has not had time to collect in the pouch of Douglas so as to be distinctly felt. Cases belonging to this group may be confounded with perforated ulcer of the stomach or duodenum, with fulminating appendicitis and with torsion of the pedicle of a pelvic tumor, usually of the ovary. But none of these conditions present prostration so rapid and so profound as is found in ruptured tubal pregnancy. To be sure, there may be faintings which blanch the face and quicken the pulse, but these pass away and the patient recovers for a time, to be followed later on by progressive abdominal symptoms.

In differentiating between a perforated gastric ulcer and a ruptured tubal pregnancy, we must bear in mind that in the former there is usually a history of long-standing trouble, often with pain and tenderness in the gastric region. In a fulminating appendicitis there is always pain and tenderness over the appendix. The third condition (that of twisted pedicle of an ovarian cyst) is possibly more difficult to differentiate, and especially will the resemblance to tubal pregnancy be marked if, in addition to the pain in the abdomen, there is present an hemorrhagic vaginal discharge, which we often see accompanying a twisted pedicle. We must bear in mind also, if we are able to examine the patient shortly after the onset of pain and collapse, that if the trouble be a ruptured tube, we will find no tumor by way of the vagina, but if it be due to a twisted pedicle of an ovarian cyst, the tumor can be felt by way of the vagina, unless it lies high up in the abdomen, when it will be hard to define because of the rigidity of the abdomen.

I want to impress upon you one important fact; that is, that the diagnosis of intraperitoneal rupture is the diagnosis of intra-abdominal hemorrhage; the conditions are identical.

Sometimes mistakes are made in the exact diagnosis by the surgeon, because he will first look in the neighborhood of the stomach for the trouble, but if he examines the appendix first he will detect the effusion of blood as soon as he carries his fingers down towards the pelvic cavity.

In the second variety of tubal pregnancy, we find the patient presenting premonitory symptoms, such as occasional faintings, abdominal pain and uneasiness, and hemorrhagic vaginal discharge. These patients will have been going along this way for a number of days until they became alarmed at their condition and have sought medical aid. The history will show possibly amenorrhea present, pain in the abdomen and bloody discharge from the vagina. The pain is caused by the intramural hemorrhages which are constantly recurring; also by colic in the tube. Abdominal pain in this condition is always of the greatest importance and should not be passed over lightly but should have the utmost consideration. Amenorrhea may or may not be present, depending upon the age of the pregnancy. If it is present, it draws our attention to the possibility of pregnancy, and, in the presence of abdominal pain, to some complication of the pregnancy. The ordinary subjective symptoms of pregnancy, such as morning sickness, and enlarged mammary glands, are not to be relied upon, because they are less constant in extrauterine pregnancy than in intrauterine pregnancy.

In making abdominal examination in this condition it is very important to use the utmost caution, because the gravid sac easily gives way when roughly handled. The sac varies a great deal as regards size, consistency and situation.

Now, a few words in regard to treatment. When you have been called to see a patient who presents all the symptoms of an acute rupture of the tube, you have before you a very trying case, a case that needs your immediate attention, and that will tax your skill both as a diagnostician and as a practitioner. The most important question that comes before you for consideration is, not "Shall we operate?" but "When shall we operate?" Shall we open the abdomen immediately, excise the sac and arrest the flooding, or shall we permit the patient to go along for a time in the hope that she will recover from the shock and collapse? There are advocates of both procedures. Personally, I am in favor of immediate operation. The patient is already greatly in shock and the slight additional shock incident to a rapid operation can do no great harm; it can be done under very light anesthesia. This point it is well to bear in mind.

Another point that is very important in determining whether or not to operate immediately, is the degree of restlessness. If your patient exhibits great restlessness, it may mean impending death, which would contra-indicate surgical interference, but patients who do not present this great restlessness are seldom beyond the possibility of being saved by rapid operation.

I am not here to-night to discuss the subject from a surgical standpoint, but if you will permit me I would like to briefly run over a few points in connection with operation.

If you have not time to take your patient to an infirmary, the operation can be done at the bedside. The patient is placed in the Trendelenberg position, and, if time permits, fill the bowel with normal saline solution. Have the abdomen aseptic and make your incision in the middle line. The surgeon then runs his hand down through the clot, seizes the tube and places clamps on either side, after which he hurriedly wipes away enough blood to permit him to apply ligatures. Then with his hand he scoops out the remaining blood clots, makes sure of haemostasis and rapidly closes the abdomen. The bleeding can be arrested in four or five minutes and the operation completed in fifteen minutes.

In the other class of cases where the premonitory symptoms have been going on for possibly a number of days before you have seen the patient, operation is always indicated; but if your patient is doing well, if she does not present indications of active hemorrhage, then I believe that immediate surgical interference is contraindicated and would be meddlesome. The patient can be placed upon palliative treatment, such as keeping her quiet in bed, with hot applications over the abdomen, alternating with cold, and the administration of syrup of iodid of iron for the purpose of promoting absorption.

This condition is very interesting and is one, fortunately, that we do not often meet with, but when we do see a case we should be as well informed on the subject as possible, in order to be able to do the proper thing for our patients, in order to be able to do just what we should do to save the patient's life, because in these cases of internal hemorrhage the patient may bleed to death while we are trying to decide what is the best thing to do, and it is always the duty of the general practitioner to at once call in consultation a competent surgeon upon whom he can rely and with whom he can share the responsibility.

A. D. Willmoth: In discussing such an important subject as Dr. Yeatts has brought up here tonight, it is pretty hard to keep within the limit of time allowed. There are some points, however, that I think are of especial importance and that pertain directly to both the medical and surgical sides of the question.

We can all readily understand why it is that rupture usually occurs on the inner side of the tube. Hemorrhage takes place, eats through, so to speak, and rupture occurs with hemorrhage into either the broad ligament or the abdominal cavity.

The most important thing for the members of this society to consider is the question of symptoms, because that is what both the practitioner and the surgeon have to contend with at the bedside. I cannot fully agree with the essayist when he says that this class of cases run no temperature. That is true of course, immediately following hemorrhage—not only is there no temperature, but often a subnormal temperature. However, on the other hand, it has been conclusively proved that within a short time after hemorrhage occurs, all of these patients run a temperature. In 1905 Brittner called attention to this, and in the February number of the American Journal of Obstetrics and Diseases of Women and Children, he published an article calling attention to the symptoms of tubal pregnancy, in which he refers to temperature in these cases, and shows that in 100 cases every one had more or less elevation of temperature. One point in the diagnosis is that the temperature is never high. In the presence of an inflamed tube we have a temperature of 102 to 104, with chills, dry tongue and all the evidences of an infection, while in tubal pregnancy the temperature never goes above 102 1-2. This is due to the absorption of blood into the peritoneal cavity, and absorption through the peritoneum after it has escaped into the cavity. The few cases that have come under my observation have all run temperatures.

The question that Dr. Phillips brought up is a very interesting one; that is, whether we are going to operate at once or defer operation. In most cases of profound shock the patient had better be let alone. I think it is pretty well agreed among surgeons that very few of these patients die in the primary hemorrhage; that it is always the succeeding hemorrhages that kill the patient, but if they are going to die in the primary hemorrhage, the shock is so profound that opening of the abdomen will only obtain for us the condemnation of the family and bring surgery into disrepute. If it is decided to open the abdomen, however, it should be done under local anesthesia, because the tube can be clamped in a very few moments, leaving the clamps in place or rapidly tying off the structures, and preventing further hemorrhage. Most of them will survive and later on can be operated upon in a more satisfactory way and it will not bring either surgery or general medicine into disrepute.

Another important point that Dr. Yeatts mentioned was the question of dealing with the afterbirth. As he sated, I think it has been pretty well agreed among gynecologists that the best plan is to suture the sac to the abdominal wall and leave the after-birth in place. Every doctor who has tried to remove the after-birth in such cases know what a terrific hemorrhage ensues.

When we endeavor to remove a live placenta—and I mean by that one in which the foetus has escaped from a very much enlarged tube into the cavity and the placenta is functionating—we have a most terrific hemorrhage. The only way to control it is by ligation of the ovarian and uterine arteries on that side, and even them we get hemorrhage from the broad ligament and other branches. In such cases if we will suture the sac and let it alone until it becames a so-called "dead" placenta, it can be safely removed at a second operation. Some of these cases can be drained through the vagina, closing off the general peritoneal cavity and allowing the placenta to come away as a vaginal discharge.

One point the essayist did not touch upon, that is worthy of consideration, is the question whether or not women who have had a tubal pregnancy should be allowed to become pregnant again. Dr. Clark, of Philadelphia, recently published an excellent review of this subject. Where the patient is a young woman who has never borne children, and where it is particularly desirable that she should give birth to a child, it is well enough to allow her to go along with the possibility of becoming pregnant in the other tube, as many of them will do. On the other hand, if the patient is a woman who has borne several children, and has gone along for a number of years without a pregnancy (as most of them have) and then develops a tubal pregnancy, it is a question for much serious consideration whether that woman should be allowed to retain the tube on the other side, with the possibility of having to submit to a second operation. Many gynecologists believe, at the present time, that in such cases, we should explain to the woman beforehand the danger of allowing the tube on the opposite side to remain, and if her permission is obtained, it is wise, while we are in the abdomen, to ligate the opposite tube in two places and cut between, thereby rendering the woman sterile and precluding the possibility of a second operation for a similar condition on the opposite side.

Edward Speidel: I would like to add a few points in regard to the symptomatology of this condition. The menstrual history of a case of extrauterine pregnancy, if anything, is misleading. In most cases there is simply a history of delayed menstruation, or a menstruation that did not continue for the usual period of time.

The point brought out by the essayist, that the discharge from the uterus in an extrauterine pregnancy is very much like a normal menstruation, or a lochial discharge, and is comparatively free from clots, is a very important one in differentiating between a threatened abortion and tubal pregnancy.

Another important point in the symptomatology is that when a woman, in the early months of pregnancy, complains of pain in the lower part of the abdomen, especially in either the right or left ovarian region, it is at least suspicious of tubal pregnancy.

Another important symptom, that was brought out recently by Dr. Boldt, of New York, is this: In a case of suspected pregnancy, when by vaginal examination pressure is made upon the anterior lip of the cervix, backward toward the sacrum, if pain is thereby elicited in either the right or left ovarian region, it is a symptom of tubal pregnancy, and the pain will give you the location of the condition. It is assumed, of course, that in the differential diagnosis, the diagnostician has eliminated pus tubes or adhesions on that side. This point is particularly emphasized by Boldt and I believe it is a very valuable one in the diagnosis of tubal pregnancy.

C. H. Harris: I would like to correct one statement made by Dr. Phillips. I understood him to say that, in a case of ectopic pregnancy, where the diagnosis has been made, and active hemorrhag has ceased, it would be meddlesome surgery to open the abdomen. My observation has been, and I have been taught, that whenever we see a woman with ectopic pregnancy, we should go in there and relieve it, and I do not think it can be designated as meddlesome surgery to take that woman out of the jeopardy in which she is placed.

Chas. W. Hibbitt: I have enjoyed the essay and discussion very much. There are two or three points upon which I think a little more stress might be laid. One that sometimes places the patient in danger is the examination at the bedside of suspected cases of tubal pregnancy with rupture. We are all prone to palpate the abdomen and make vaginal examination to see if we can detect the trouble and ascertain whether rupture has probably taken place, and in the event that nature has made an effort to take care of the hemorrhage by plugging up the rent in the tube with the placenta, or clot, it is a very easy matter, even with careful manipulation, to force out the plug with which nature is endeavoring to check the hemorrhage. Therefore, I think we should be exceedingly careful in manipulating the abdomen in our efforts to make the diagnosis.

As to Dr. Phillips' statement that we should not interfere in cases that look as if they are going to die, it strikes me that, if we are satisfied that the hemorrhage is continuing, it would be a better plan to explain to the family that the patient will probably die and that the only hope is to open the abdomen, and catch up the bleeding points with the fingers or forceps. These are the cases upon which I think we should operate immediately, first making the family aware that the danger from operation is great, but that death is practically certain if it is not done.

Dr. Willmoth stated that we are justified in cutting the opposite tube in women who have had a tubal pregnancy. My opinion is that we are never justified in cutting off or tying off a normal tube.

W. C. Dugan: Just a word in regard to the diagnosis. I have made a number of mistakes in diagnosing tubal pregnancy for appendicitis and vice versa, and I believe that such mistakes are made by all of us, but there is one symptom that I have learned to rely upon, and that is the paroxysmal character of the pain in ectopic gestation. The patient will describe the pain as of a tearing character, and if we get a history of repeated attacks of this kind I am very suspicions of ectopic trouble.

I wish to emphasize the symptom mentioned by Dr. Speidel, that is, tenderness elicited by manipulation of the uterus; not especially upon pressure upon the anterior lip of the cervix, but upon pressure on any part of the uterus the patient will complain of pain. You will find that a very valuable sign.

As to the hemorrhage, Dr. Cartledge used to describe it very graphically as a "splashy" hemorrhage.

The question as to the time to operate is a very important one. Very few of these patients die in the primary hemorrhage. I believe it is our duty to operate on these patients if we see that they are not reacting after a reasonable time. As Dr. Hibbitt has suggested, we should explain to the family and to the patient that she is entitled to the chance afforded by operation, and I think we should be brave enough to give the patient the benefit of the doubt even though the chance is only one in five hundred. If my wife was bleeding and the chances were that she would not stop bleeding, if I could not get any one else to operate I would operate on her myself. I feel that it is the surgeon's duty to operate in these cases if in his judgment it offers the only reasonable hope.

In my opinion, the best thing to do when we have even a suspicion of ectopic gestation, is to send the patient to the infirmary, and not wait until it is an emergency case, so that if the time comes the patient will be where we can render efficient service. That is something we should not neglect in these suspected cases.

After all, what is the use of making these fine points in the diagnosis? The main thing is to establish the fact that it is a surgical condition, which demands operation, whether it be volvulus, appendicitis, or tubal pregnancy. I think that is the most important thing to decide.

Jno. K. Freeman: I have been very much interested in the paper and discussion.

In regard to the diagnosis, I think we should never lose sight of the history of these cases. We should go carefully into the history of every case and it will often help us considerably in making the diagnosis. As a rule, we will find tubal pregnancy in a certain class of cases—cases that give a history indicative of tubal disease, or certain abnormalities in the structure of the tubes. I cannot understand how any tube that is absolutely normal in shape and conformation can ever be the seat of a tubal pregnancy; it is the abnormal tube—abnormal either in position or in conformation. There is something wrong with the tube in some way or it would not be the seat of an ectopic gestation. All these things boil themselves down to a surgical condition, and all of us will agree that when the diagnosis has been made, the sooner the woman is subjected to surgical procedure, the better. The history of children that have been born from extra-uterine pregnancies that have been let alone, is not very good, so we had better reduce this to a surgical condition. The first thing to do is to make the diagnosis, which is sometimes difficult. We have heard reports of cases before this society in which, even after the abdomen was opened, it was difficult to make diagnosis of pregnancy, even in utero, and the diagnosis of extrauterine pregnancy is quite difficult until after the abdomen is opened. I have opened the abdomen expecting to find an appendicitis and found an ectopic gestation, and vice versa, and I expect all of us have done the same thing.

These cases are interesting and present problems that are very perplexing indeed.

APPENDICITIS; WITH REPORT OF FATAL CASES.

By E. S. Allen, Louisville.

I will not consume your time with the embryology or topographical anatomy of the appendix, for these, I believe, have very little bearing on that phase of the subject I wish to discuss, viz.: Why some cases of appendicitis are fatal which, at the time of operation, look favorable?

It goes without discussion that appendicitis is always of infectious origin, and the only other factor as a causative agent is the type of injury that predisposes to infection. Foreign bodies, circulatory disturbances, and the like, only play a part in that they traumatize the mucosa, which is normally protective against bacterial invasion. In other words, there exists a repellent chemotaxis, and in which no inflammatory manifestation can occur. When the epithelial wall is broken down, by trauma, which is usually the result of muscular contraction on appendiceal content, the point of injury is an atrium for bacterial invasion into mesoblastic structures, which, when invaded, attempt protection by bacteriolytic enzymes, and phagocytosis. If, in this battle between animal and vegetable cells, the animal protective forces can gain an early victory, little damage is done to property on the field of action; however, if this fight has been bloody —and by this I mean much destruction of not only white cells, but resident tissue cells as well—we can only appreciate under the microscope the effect of the struggle.

For instance, there is an inflammatory thickening of the blood vessels, narrowing of their lumens, and frequently endoarteritis obliterans, thus impairing nutrition and leaving this structure very much *"hors du combat"* for future protection against a second invasion; for, once a vulnerable point is found, repeated invasions at this weak spot are the rule; or as we know an haemogenic infection might take place, for bacteria, especially of the pyogenic type are constantly in the blood stream, finding various avenues of entrance, but are kept in abeyance by the protective substances and in time are destroyed unless they find some point of lowered vitality where circulation is stagnant, defense elements at a low ebb, and in which the bacterium is allowed to remain quiet long enough for multiplication to take place, thereby increasing their numbers to such an extent as to attract cellular attention, and a second inflammatory manifestation flares up. So, the result of a primary attack of appendicitis leaves the organ not only susceptible to a second invasion, but from the standpoint of defense, very much crippled. The nerve terminals in the appendix are less acute from a trophic point and that of motor impulse, as a result of an inflammatory reparative material having thickened their capsules. The lymphatics become narrowed and obliterated, and fibroblastic tissue, with which all mesoblastic structures are repaired, always organizes into cicatricial tissue, which mechanically interferes by vascular strangulation.

A second invasion occurs. As a result of impaired nutrition, crippled blood vessels, and an inadequate drainage system, plus the round cell infiltration and inflammatory exudation, the circulation becomes modified, and nutrition impaired. The endothelial degeneration in the blood vessels precipitates a a thrombosis with complete strangulation of the tissue leaving all the cellular forces without food or oxygen, and absolutely at the mercy of the bacteria and the destructive enzyme of the dead white blood cell, which clinically results in tissue death or gangrene (coagulation necrosis).

Nature, defeated locally, begins to call into play forces to protect against systemic and peritoneal invasion. Thrombosis, plus round cell infiltration, tend to localize this cellular war, and by some almost supernatural means of physiological chemical attraction between animal and vegetable cells, the omentum and intestine by means of the white blood cell and a plastic lymph are brought into the field of action and cemented securely over the area where bacteria are beginning to escape into the peritoneal cavity. The invaded tissue thus cut off from nutrition by the wall of protection thrown up by nature, are liquified by the enzymes of the dead phagocytes, and again nature wins the battle by arresting and localizing the inflammation. It is at this stage that a great many cases of appendicitis reach the surgeon, that is, we have a gangrenous appendix lying in a well protected abscess cavity. I say in this stage but mean if nature has not been handicapped in her fight by artificially produced intestinal peristalsis. I can easily imagine how difficult it must be for the little white blood cell with its plastic cement to bind the constantly moving bowel and omentum to a fixed point, and how disgusted the little fellow must feel when, after the omentum and bowel have been dragged over to and carefully cemented over this field of action for a great big peristaltic wave to come along and tear loose this wonderful masonry. And how disheartening to the surgeon when he is called to the country to operate on a case of appendicitis, to have the attending physician inform him in a rather satisfied air, of having done the correct thing, that he has given two or three purgatives, and that the patient's intestinal tract must be in good condition. It took the surgeon a long time to realize the necessity of rest to an inflamed part; how much longer will it take the general practitioner to understand that over ninety per cent. of all cases of appendiceal perforation, without protection, are ascribed to the administration of a purgative. Dr. Quain says, "Patients with acute appendicitis whom we have seen die from local extension of the disease, or from general sepsis, either with or without surgical intervention, had, without an exception, received and retained some active cathartic in the beginning of the disease. The patients with diseases of similar nature who have barely escaped death, but who have developed the worst postoperative complications, advancing peritonitis, bowel paresis, distention, fecal fistulas, and miserere, had nearly all been given a dose of salts as a passport to prolonged suffering, tedious and expensive stay in the hospital. On the other hand, the cases of acute intra-abdominal inflammation which had an equally stormy onset and which apparently promised fully as grave complications as those already mentioned, but into which the element of purgation had not entered—in these cases the patients had in comparison a surprisingly easy and quick recovery."

He also says that it has become a custom, whenever a patient with acute appendicitis or other inflammation about the movable viscera is brought to him, to inquire at once: "Have you taken a physic?" If this question is answered in the affirmative, the next question is whether the stomach resented the insult with free emesis, or whether the cathartic was retained to perform its malicious work. This knowledge is of importance in prognosis.

How much more effective, and certainly far safer, is the ice bag and enema than morphine and purgation. If this was the rule in the country, many a case of appendicitis would reach the surgeon with chances for life much more in his favor. What I wanted to say was, why give a purgative prior to an operation? Is it not a safe procedure to try to have the alimentary tract surgically clean by rest and diet, than to clean it out by overwork and chemical irritation? I do not think there is any doubt but that all of the saline purgatives modify the intestinal enzymes materially and probably temporarily take from them the property of keeping in abeyance bacterial growth.

"The greatest interdependence among fecal bacteria exists between the fermentative and the putrefactive types—the former decomposing the carbohydrates and the latter the proteids. A marked disturbance of their relative activities will cause excessive gas formation and perhaps diarrhea, the symptoms of so-called 'intestinal fermentation.'

"An individual who eats habitually a varied diet, who secretes normal gastric, pancreatic and intestinal juices, who has a properly functionating neuromuscular apparatus for peristalsis, and who has an evenly balanced colonic bacterial flora—such an individual enjoys intestinal comfort. Whenever any one of these factors is deficient or excessive in its activity, the intestinal balance is upset and the individual suffers discomfort and symptoms in proportion to the derangement.

"We are apt to think of the function of peristalsis as being limited to the propulsion of intestinal contents. It is easily conceived, however, that the successive contractions and relaxations of the intestines also cause alternately an ischemia and a hyperemia of the intestinal wall. These circulatory changes aid absorption from the mucosa and cause a more rapid dissemination of absorbed substances into blood-vessels and lymphatics." (Dr. Murphy).

The symptoms, in the order of their occurrence may be mentioned as: First, pain in the abdomen, sudden and severe, primarily referred to the epigastrium, followed by (second) nausea or vomiting, most commonly between three and four hours after the onset of pain. Third, general abdominal sensitiveness, most marked on the right side, or more particularly over the appendix. Fourth, elevation of temperature, beginning from two to twenty-four hours after the onset of pain. In severe cases the temperature reaches 102 to 103 degrees between eight and twelve hours after the initial pain. Fifth, leukocytosis. The symptoms occur almost without exception in the above order, and *when that order varies he questions the diagnosis*. If the nausea and vomiting or temperature precede the pain, he feels certain that the case is not one of appendicitis. Where the temperature alone precedes the pain for a day or even two or three, then he is always fearful that it is typhoid fever with a typhoid ulceration in the appendix.

I will not go farther into the symptomatology for with the exception of these salient points every case is more or less a law unto itself. Books have been written on each one of these points of symptomatology and hours could easily be spent discussing it alone.

I would rather devote more time to the post-operative symptomatology—as you begin to get your first warning that things are going wrong.

In the last five years I have operated on 124 cases of appendicitis which is not enough to draw any conclusions, but I want you to discuss the fatalities. I feel that the cases that recovered were given the correct surgical assistance and I could learn nothing by reporting them. I feel no hesitancy in reporting my deaths, for those of you who do surgery know that some of them die, and, too, occasionally those who, at the time of the operation look as if they ought to get well; and some recover for whom you would offer no hope. I have had five cases of appendicitis to die, four of which I thought would get well when they left the operating room.

The first case of appendicitis that died following an operation by me was a case referred to me by Dr. Fallis very soon after Dr. Wm. E. Fallis began to assist me in my work, and the first case that Dr. Fallis had referred to me. A boy, age 14, sick two days: typical symptoms. I saw the boy at the end of 48 hours. I did not doubt his having appendicitis but with a pulse of 90, temperature 100 degrees; facial expression calm, abdomen protective but not distended, I hesitated advising an immediate operation. The full, bounding, high-tension pulse helped me to decide that nature was pretty busy resisting something. So he was operated on. The unusual feature was the location of the appendix. The cecum had not descended and the distal end of the appendix was adherent to the upper surface of the right lobe of the liver; at the point of attachment was a necrotic area of liver tissue the size of a quarter. The appendix was gangrenous and very much enlarged. Murphy-Fowler treatment carried out. Drainage was instituted and the boy for the first 12 to 14 hours looked as if he was sure to get well, but at the end of this time he became very restless, complained of pain, vomited and looked anxious. Gastric lavage, high enema, eserine, atropine, etc., were administered. The clinical picture was that of an intestinal obstruction. Was it a post-operative ileus with putrefactive intoxication, or a general peritonitis with paresis?

I had up to this time operated on about 35 cases of appendicitis without a death and was beginning to feel that I had a little something on some of my friends, as I had recently assisted a friend (a few years my senior) who, after searching for the appendix for an hour and a half, was about to ligate and cut off an appendage of fat, when I slipped my finger into the fossae of the appendix and luckily hooked up the appendix and modestly presented it to him. But I have lost all of my ego, and appreciate my poverty of knowledge.

The next fatal case was a street car conductor, about forty years of age, weighing over two hundred pounds who had been sick five or six days, and had been under the care of two or three physicians at different times during this interval, none of whom seem to have recognized the seriousness of his condition. This man lived eight or ten miles out in the country on the interurban car line. Dr. Fallis was called to see this case, and advised surgery. This man at the time I saw him, which was a few hours before the operation, appeared to have an intestinal obstruction, secondary to appendicitis. The incision revealed a large gangrenous appendix, with marked inflammatory induration, involving the cecum and omentum which had walled off this inflammatory mass. Drainage was instituted in this case with the accepted post-operative treatment in the way of saline and position. This man was very restless from the time he regained consciousness, complained of a great deal of pain, had to be forcibly restrained, and several hypodermics of opiates for him failed to get any rest at all. He continued to vomit and died in about 20 hours after the operation, apparently exhausted. Did this man have the erithistis type of shock or general peritonitis?

Case 3, a man, age 45, alcoholic history. Delirium tremens a few months before the attack of appendicitis. This man's clinical picture was such as to cause a surgeon to hesitate before advising an operation for the relief of any condition except as a life-saving measure, for he had an irregular heart that was probably both fatty and much hypertrophied. His arteries were hard, arcussenilis marked. He was fat and flabby with a distended sensitive abdomen, in which could be outlined a mass of an inflammatory nature. His family physician with whom I saw the case, I regard as a man of unusual ability, one who is conscientious and conservative. We discussed in detail this case, realizing clearly the chances to be taken, but felt positive that a gangrenous appendix had to be dealt with, and that we offered the man a better chance for his life by removing the appendix.

The operation revealed a gangrenous appendix, ruptured, and in an abscess cavity. It was partially retro-peritoneal, and seemed well protected. Drainage was instituted, and the Fowler-Murphy treatment followed. So far as we could tell from the pathology found, the man was due to get well, and for forty-eight hours he did nicely, at the end of which time he was beginning to show abdominal distention with restlessness, little or no pain. The routine treatment of stomach washing, enema, eserine, atropine, and so on, we resorted to. We could never get the patient to sleep. I think he was the most restless individual I have ever seen. Gallons of stained material not of a distinct fecal odor were washed from his stomach. This man apparently died from a post-operative ileus.

The next case is one easily accounted for. A woman, age about thirty-five, who gave a history of pain, vomiting, temperature, and abdominal tenderness. She had been sick three days when I saw her. She had had both morphine and purgatives. When I saw her about ten o'clock at night, she was feeling very comfortable from the effects of an hypodermic of heroin. Her temperature was ninety-nine and a fraction, pulse ninety, abdomen pliable, moderate amount of tympany, some peristalsis could be observed. I was not sure that this patient had appendicitis. I should have made a blood count that night, for the picture as it presented itself to me was more of a mechanical lesion than an inflammatory one. I made a mistake so far as I could see the patient was in no immediate danger, and advised watching her condition until the following morning, when with the morphine eliminated we could get an unclouded picture of the real pathology. I heard no more of this case until the following evening, when she was operated on as an emergency in a state of collapse from a general suppurative peritonitis.

In post operative complications apparently involving the intestinal tract I can never satisfy myself thoroughly as to whether my patient is suffering from a paralytic or adynamic ileus, or mechanical obstruction or is being poisoned by absorption of putrin bodies resulting from the action of bacteria on the intestinal contents; or whether my patient has developed a septicemia or, preferably, a bacteremia caused by a trauma and opening up of new raw surfaces; or whether the infection has extended and produced a general peritonitis with intestinal paresis. Quoting Donehoghue of Boston, "A paralysis of peristaltic activity usually follows surgical interference in the abdominal cavity. It is more common after operations on acute inflammatory or suppurative conditions, but may follow apparently slight operations with clean conditions of the peritoneum.

"The milder forms are readily overcome by some of the usual post-operative procedures, those cases which do not yield to ordinary treatment, however, and especially those cases accompanying localized or general peritonitis, present a most dangerous and trying complication.

"Whatever may be the actual causative factors in the production of acute post-operative ileus, the practical results are of a mechanical nature, plus poisoning from the products of intestinal decomposition. This peristaltic inertia is often aggravated by adhesions between loops of intestines causing 'kinking,' or from slight adhesions between the omentum and some viscera or inflamed surface. These adhesions, not in themselves of a character and extent to cause trouble, may become of serious import in the presence of some intraintestinal factor.

SYMPTOMS.

The symptoms of serious post-operative ileus develop early and in twenty-four hours may be well marked. In fact, some operations, while successful in removing a primary cause of trouble, do not cause amelioration of symptoms, so that the developing ileus forms a continuous picture with the condition which was the cause of interference.

"Persistent vomiting, changing from a bilious to a stercoraceous character, should put one on guard. With this comes an increase in the abdominal distension which is not relieved by the use of enemata; neither is the vomiting controlled by gastric lavage."

If these cases die from obstruction of the bowels, what is the cause of death? Do these toxic substances sucked into the circulation through the devitalized mucosa so act on the nervous system as to produce a vasomotor paralysis for the clinical picture similates that of surgical shock? Or, is it the general depression resulting from bacterial toxines? Or, is it a toxemia due to some perversion of intestinal metabolism? For metabolic toxines are formed in the epithelium of the intestines, and the mucosa may permit a direct absorption of peptones and products from the intestine that are normally changed by the epithelium before being discharged into the circulation

"It has been pointed out by Roger and Gariner and by others that the normal products of intestinal digestion, particularly the peptones, are poisonous if directly injected into the circulation. The intestinal mucosa exerts some chemical change on this material during the process of absorption, which not only renderes it non-toxic, but converts it into nutrition for the body cells. Experiments, then, which depend on the fact that material taken from a strangulated loop of intestine and injected into an animal produces illness and death, do not by any means prove that this material is peculiar to the strangulated intestines. The normal products from the normal intestinal tract when injected will also produce marked toxic symptoms and death.

"It is generally recognized that a high intestinal obstruction within 12 inches of the pylorus, is more rapidly fatal than an obstruction low down in the ileum. This is classed by Draper, Roger, Gariner and others as proof of the fact that some vital secretion of the duodenum and no bacterial product is the toxic substance in obstruction, for it is well known that the upper part of the intestinal tract contains fewer bacteria than the lower part of the ileum. The experiments of Murphy and Vincent emphasized this difference in bacteria in the duodenum and the ileum as they found that when material from normal unobstructed bowel of cats was injected within the peritoneal cavity, necropsy revealed a peritonitis which corresponded with the level of the intestine from which the material was taken, that is the most marked peritonitis was found when the contents of the ileum were used and the mildest when the contents of the duodenum were injected. After all it is at least conceivable that the peculiar toxic product of acute ileus may be formed from the epithelium of the intestinal mucosa of the obstructed loop under the stimulus of a perverted circulation of an excess amount of bacteria, or both.

The question I wish to ask is that, in these post-operative conditions that simulate an obstruction and the mortality of which is more than ninety percent. is the surgeon justified in reopening the abdominal wound, separating adhesions or relieving kinks, and puncturing the distended bowel and letting out this enormous amount of liquid poison, reestablishing the circulation, relieving subdiaphragmatic pressure and giving nature another chance at reestablishing at least a circulatory equilibrium. In my mind I believe with the expert administration of gas-oxygen anaesthesia we use up little of the patient's energy and offer him a chance.

DISCUSSION.

Wm. H. Wathen: Some of the suggestions contained in Dr. Allen's paper are of value to both the surgeon and the general practitioner. There ought to be very few deaths in acute appendicitis. Acute appendicitis means an acute inflammation of the appendix primarily. What do we want in an acute inflammation? Absolute rest and as little disturbance of the circulation as possible. What do we get when—as is done in nineteen out of every twenty cases the world over—we give a purgative, such as castor oil, or something just as bad, in a case of acute appendicitis? We immediately establish an active peristalsis in the lower ileum, in the appendix and in the cecum. We throw down and increase the quantity of material in the lower ileum and cecum, which presses upon the structures and interferes with the circulation. We increase greatly the number and virulency of the bacteria. All of which is positively contraindicated, and if left undone and the patient put at rest, with probably (after the diagnosis has been made) an enema to remove the gas from the lower large bowel, and if necessary, a hypodermic to quiet pain and stop peristalsis, there would be practically no cases of gangrene or perforation in acute appendicitis. I do not remember, for many years, to have operated upon a case of perforated or gangrenous appendix that had not been purged prior to operation. Moynihan reports that, in the seven years since he began this observation, he has never yet found a case of perforated or gangrenous appendicitis that had not been purged before he saw the patient.

The first thing is to make the diagnosis of a case of acute appendicitis, which is not always easy, especially in little children, where the symptoms are very much masked, the same being true of very old people, but in the average case we can make the diagnosis sufficiently accurate to enable us to say that 'here is a case of acute appendicitis that should not be purged.'' The classic symptoms are, pain in the region of the umbilicus, followed by nausea and vomiting, rigidity of the muscles of the right side and then over the entire abdomen; the pain then localizing in the right inguinal region; then elevation of temperature, acceleration of the pulse rate, and finally distension of the abdomen, and often retraction of the right leg. These symptoms are not all found in old people nor in little children, but in cases between the two extremes we can make a fairly accurate diagnosis.

When the diagnosis has been made, put the patient at rest; give nothing in the stomach—not even water, because it has been demonstrated in research work that the introduction of a good drink of water into the stomach will, in a short time, give rise to active peristalsis in the lower ileum and cecum—the very thing we do not want. When we are going to operate and there is much pain, I am in favor of giving a hypodermic to stop peristalsis.

Acute appendicitis is never cured by internal medication, but the patient may be killed by it. If left alone, the condition may pass beyond the acute stage and become chronic, but it is never cured without the removal of the appendix.

In my operative work, unfortunately, I find many cases coming to me with the appendix gangrenous or perforated, and sometimes with pus or a sero-purulent fluid all over the abdominal cavity. What are we to do in these cases? We surgeons have killed many patients by doing too much. The less we do in this class of cases, always the better. If possible to avoid it, never separate a new adhesion that will allow the sepsis to be conveyed through the lymphatics into the system, causing a bacteriemia. Do as little as possible. If there is a pus cavity, put a drainage tube into it and stop there, or slip an additional tube down behind the bladder into the bottom of the pelvis and close the abdomen. If the abdomen is full of a sero-purulent material and it gushes out, do not wipe it out of the cavity with gauze, because in so doing we may destroy the resisting power of the epithelial cells; and the sero-purulent liquid is often full of most vigorous phagocytes, trying to destroy the bacteria. The phagocytes are the most active of all the structures fighting against the bacterial invasion, but they are also the most easily crippled. Therefore, if we sponge out the cavity we impair the epithelium and weaken the resistance of the army of cells that is fighting against the systemic invasion of the disease.

Simrall Anderson: Just a word in regard to purgation. Of course, we all agree that it is improper to purge the patient in a case of acute appendicitis, but it is a peculiar fact that I have never seen a case in which a purgative was not administered and the bowels moved prior to operation, where the bowels could be made to move after the operation.

Bernard J. O'Connor: I wish to indorse what has been said by both Dr. Allen and Dr. Wathen in regard to the use of purgatives in cases of acute appendicitis. I am not certain whether or not Dr. Anderson intended to intimate that a purgative should be given; I think he meant the contrary, but his meaning was not clear. I am convinced that the use of purgatives will do these patients great harm. Food of any character, and even water, introduced into the stomach will also do harm. It is one of the most difficult things in the world to convince the laity of the propriety of this treatment, but if we can get them to adopt it we will not need any opiates as a rule. The patient will be comparatively comfortable, without any vomiting, and the surgeon will stand a much better chance of removing the appendix without endangering the patient's life.

Simply opening an abscess and draining it oftentimes involves a secondary operation for the removal of the appendix. In a great many instances, however, the appendix will be found to have completely sloughed away, nature having closed the end of the bowel, so that no further attacks can occur. I think that where the appendix can be easily seen, where it can be lifted up into the incision without loosening adhesions, and where it has not been completely destroyed by inflammatory deposits or gangrene, it is a wise plan to remove it at the time of operation.

There are several means by which we can bring about an increase in the defensive properties against the infection, both prior to and immediately after operation, and thus lessen the possibility of a fatal termination from a bacteriemia. Those cases in which there is an intestinal obstruction are probably best handled when the diagnosis is made early and a secondary operation done promptly. Just as in many cases of appendicitis, the diagnosis may be made early if we are carefully observant of the symptoms. Diagnosis of perforation may be made with the pulse rate as low as normal, if we will take the rigidity of the abdomen, vomiting, and a history of pain into consideration. Therefore, I think the diagnosis of obstruction or ileus can be made early, and if properly handled by surgical means, will often have a favorable instead of a fatal termination.

C. H. Harris: Speaking from the standpoint of the general practitioner, we often hear the question asked, "When is the right time to operate on a diseased appendix?" I have met men in my work who claimed to be able to cure appendicitis by hot or cold applications, by the administration of salol, etc., and I think these men were conscientious in their belief that they could cure the condition by this means. I have seen a good many cases, and I do not believe there is a drug in the whole materia medica that has any influence on an appendicitis; it is absolutely and unequivocally a surgical condition. I have used hot and cold applications; I have purged and learned a lesson, and I have let them alone and learned the same lesson, that appendicitis is a surgical condition always. I have done a few operations for appendicitis myself, and I have come to the conclusion that no man who is not capable of dealing with all of the complications that may be found within the abdominal cavity, has any business trying to do an appendectomy. I believe that at times I have done harm by putting my finger into the abdomen and feeling around for the appendix, and in so doing, breaking up nature's protective influence. The less you handle the contents of the right iliac region in the presence of an inflamed appendix, the better off your patient is going to be, and I, for one, do not intend to tackle another appendix.

M. Casper: I have enjoyed Dr. Allen's paper very much indeed. I think one mistake that is often made by the general practitioner is waiting for the manifestations of all the symptoms described as being characteristic of appendicitis before making the diagnosis. It is very seldom indeed that all these symptoms occur in a patient. In this patient one symptom is absent, in that one another symptom is absent, and so on. Therefore, it is difficult to make diagnosis of appendicitis unless it is a typical case, and I think it is a mistake to wait for all the cardinal symptoms to develop.

The question has been asked, "When is the proper time to operate in appendicitis?" I think we will seldom make a mistake if we operate as soon as the diagnosis has been made. That is my rule at the present time, and I think it is a good one. If there is one thing that is agreed upon among the profession it is that we do not know what is going to happen in the presence of an acutely inflamed appendix; no one can tell just what pathology will develop, what complications will arise, nor how the case will terminate. Therefore, I do not think we should delay operation until the interval between attacks. With possibly a few exceptions, the time to operate is as soon as the diagnosis of appendicitis is made.

Of course, we are all agreed that these patients should not be purged, and it is a curious fact why it is nearly always done. We very seldom get a case that has not been purged, and usually by the family before the doctor has been called in. Often, however, the doctor makes the mistake of calling it a belly-ache, indigestion, or something of that kind, that will probably work off under a dose of castor oil, or calomel. He makes the wrong tentative diagnosis because the patient has not all of the cardinal symptoms. So often the pain starts in the epigastric region, especially in children, and the doctor makes the mistake of giving a dose of castor oil, which is not particularly indicated in any form of belly-ache.

Another point is that in female patients, it is always advisable to make a vaginal examination in cases of suspected appendicitis. I think this is a rule we should all follow, and it would often be of assistance to make rectal examinations of male patients.

Louis Frank: I am very glad to have heard Dr. Allen's paper. Some of the questions that have been asked are very difficult to answer.

In regard to post-operative ileus, my own personal experience has been that in adynamic ileus, due to septic intoxication, no operative treatment of any character has resulted in any benefit. I have opened the abdomen, flushed out the colon and introduced a drainage tube, but I have never seen anything come out after the colon was opened. The trouble in these cases of septic ileus is that the muscular coat of the gut is paralyzed from over distension, and we have no pressure by which the poisonous material can be eliminat ed, and mechanical washing is the only means by which this can be accomplished. I have seen cases of apparent obstruction in which benefit has been derived from the administration of eserin. In my opinion, eserin is the only drug we have that is of value in these cases. It seems to me, from the standpoint of the pathology that exists, and from the standpoint of practical experience, that the more we manipulate a paralyzed intestine, the greater becomes the paralysis. I have seen it spread and involve other areas.

A great many questions have been brought up in connection with this subject, which is one that has been discussed for eighteen or twenty years, and will probably be discussed for eighteen or twenty years more. I think the general practitioner has, to a large extent, been unjustly criticised here to-night for the practice of administering purgatives in these cases. As a matter of fact, the surgeons themselves have been largely to blame for this. Years ago we got away from the old idea of opium and rest, and began to preach active purgation, and there are men in this room who helped to spread this very gospel. We talked about opium masking the symptoms and decried it and condemned it, and criticised the general practitioner for doing anything that would tend to keep the inflamed structures at rest. We know now that in the preparation of patients and in post-operative conditions, purgation may be the cause of death; we have learned that purgation in acute peritoneal infections is mechanically a bad thing to do, and to the dictum that has gone forth in recent years—"pain, purgation, perforation," may be added "recognition (diagnosis), repose, recovery."

As to the time for operation, I believe that as soon as the diagnosis of appendicitis is made, operation should be done; or, I might modify that and say, "Do your operation as soon as the diagnosis is made if the patient is in favorable surroundings." I have come to believe that the practice of operating on bad cases of septic peritonitis outside of a hospital should be condemned. They cannot be properly taken care of out of a hospital. A case of suppurative peritonitis, diffuse or even localized, requires the most skilled attention to carry it through to a favorable termination. We hear a great deal of talk about proctoclysis. I have learned from experience that practically none of the nurses with whom we come in contact knows anything about carrying out Murphy's proctoclysis; in fact, I have found that few doctors and some surgeons do not know how to carry it out. If these cases are operated upon in the country and left in the hands of a man who is not accustomed to treating such cases (without intending any reflection upon the country practitioner), how can we expect to get the results that should be obtained? I believe that practically every case that is susceptible of operative procedure, such as opening the abdomen, is also susceptible of being transported to a place where such facilities can be obtained as will best conduce to the recovery of the patient.

One man says, "do not irrigate," and another says, "irrigate;" one says, "leave the appendix in" and another says, "take it out." I do not believe that any man, from his own experience, can lay down a line of procedure for another man. These are questions the answers to which each man must learn for himself, from his own individual experience, and as his experience becomes larger and he treats more of these cases in the way that he has found to produce the best results and with which he has become familiar, he will continue to get better and better results. For my own part, I do not believe in leaving the appendix in any individual, I care not how adherent the intestines are nor how much pus is in the abdominal cavity. If I can find the appendix within a reasonable time, with safety to my patient, with no greater shock than I deem the patient able to withstand, I take the appendix out. I do not care anything about breaking up the abscess if the field has been properly walled off before beginning the breaking up process. Not in all these cases do we institute proctoclysis, and the results we have obtained have been entirely satisfactory to me.

The manner of drainage, where we will drain, and how long, are all questions that must be considered. Personally, I have never seen a case in which the appendix could not be found. I have operated on cases in which the appendix had entirely sloughed off, but I have had no trouble in recognizing it. In only six instances have I left the appendix in. Of these cases, three have had no further trouble; in two the appendix was taken out afterwards, and the other case had a second attack and died. Therefore, my convictions in regard to leaving the appendix in are rather positive.

As stated before, each man must depend upon the procedure which his own individual experience has taught him is the best. Others may follow different plans of treatment and get just as good results as I do, but I have come to believe that any case that is susceptible of operation is susceptible of being moved to a place where adequate facilities are available, and that there is very little excuse for a mortality in any type of appendicitis of more than two per cent.

W. C. Dugan: I wish to indorse what Dr. Frank said about the old treatment. As he stated, we tried to get away from it some twenty years ago by preaching purgation, but now the pendulum is swinging the other way, and I think it is a swing in the right direction. Like Dr. Frank, I think we must use judgment in these cases; we cannot lay down a hard and fast rule that will be applicable to every case. I also agree with him in regard to the transportation of patients. We should discourage operating in the country. If the case is an operable one at all, the patient can be transported to the city and operated upon in a hospital, where the chances for successful surgery are greatly increased.

The question has been asked, "What shall we do in post-operative ileus?" Some of the most gratifying results in my surgical experience have been in that class of cases. I have seen cases in which it appeared that death was a matter of only a few hours, where the abdomen was opened, without giving an anesthetic, a coil of intestines picked up, a tube introduced, and the patient relieved. I will never forget a case I had in a little boy, which I shall not venture to report. I told the father that it would only be a matter of a short period of suffering and then the end would come. I left that boy floating in fecal matter, having to catch a train, and he is now one of our prominent business men.

I have had other cases of a similar nature, with that extreme restlessness and delirium that the doctor spoke of. I do not mean to say that we can relieve all of these cases, but we can relieve a percentage of them sufficiently large to make the effort worth while.

A. R. Bizot: I have always had a desire to try something that I have seen done in the lower animals, but have hesitated for fear that something might go wrong and I would be open to criticism. It is true that the horse has no appendix, but he sometimes has symptoms very much resembling appendicitis. In several cases I have seen, where the animal was swollen and distended until he appeared to be ready to burst, a veterinary would stick a trocar into the abdomen, and would repeat this four or five times, as the distension recurred, and in four or five days the horse would be well. I would like to hear what some of the surgeons think of the use of the needle in a case of appendicitis.

Guy P. Grigsby: It seems to me that two vital points in connection with this subject have not been brought out. One is the question of anesthesia, and the other is getting the patient off the table quickly. Both are certainly very important factors in the result. Gas and oxygen anesthesia has now been so perfected that I believe its use in these cases will unquestionably be an important factor in obtaining good results. This, combined with getting the patient off the table quickly, in as good condition as possible, will certainly contribute a good deal towards a favorable termination of the case.

E. S. Allen, (Closing): I wish to thank the gentlemen for their discussion.

I would like to make just one short statement in closing. If we were to see a case that had not been operated upon, with the symptoms of post-operative ileus—vomiting, distension, restlessness, anxiety, peristaltic wave dead, etc.—I do not believe any of us would hesitate to give that patient the chance afforded by operation, in the belief that there was some mechanical obstruction interfering with the gut current, that had paralyzed the small gut as the result of intra-intestinal fermentation and distension, and we would at least give him this one chance. There is something in the clinical make-up or picture of the patient that impresses one with the fact that death is only a question of a few hours; he will wear himself out; he cannot sleep until he is absolutely exhausted. The vasomotor apparatus is burned out. If that patient had not been operated upon, and some intestinal condition had arisen to cause these symptoms, we would certainly give him the chance afforded by operation. Under modern methods of anesthesia, opening the abdomen rapidly, relieving the mechanical twisting or agglutination of the intestine and irrigating, will, I believe, give the patient a chance that he would not have if left alone.

CLINICAL CASES.

SUPRAPUBIC PROSTATECTOMY.

(REPORT OF CASE.)

By Albro L. Parsons, Louisville.

It is so universally the custom to report only cases that are unusual that I hesitate to make this report, but I trust the discussion will develop any unusual features.

I first saw this patient, a colored man, some three years ago, when he was 75 years of age. At that time he stated that during the previous four years he had had trouble in starting the flow in urinating. This had gradually become worse and finally got to the point where he had to get up six or eight times every night. To this was added a bladder infection with a desire to urinate constantly, day and night, so that when I saw him his clothes were constantly wet. His residual urine measured three ounces and was loaded with pus. At that time I had no trouble in entering the bladder with a soft rubber catheter. Examination revealed hypertrophy of the prostate which explained the cause of his trouble, and I urged upon him the necessity for preliminary treatment and operation, both of which were refused. I placed him on hexamethylenamin and told him to return for bladder washings. He did not do so and I did not see him until last October, three years subsequent, during which time he had very little trouble. On October 4th I was hurriedly called to the hospital to see the patient in consultation with his physician. Five days before the passage of water had stopped and the doctor had catheterized him on the evening of the same day. The next day, under chloroform anesthesia, a retention catheter was put into the bladder. No bladder washings were used. After two days the catheter became painful and the patient insisted upon its removal. Twice daily the patient was catheterized under anesthesia. I found him in the most acute agony it has ever been my misfortune to witness; his face was pinched and extremely anxious. The bladder extended to the umbilicus. I called an anesthetist and after a good deal of trouble succeeded in entering the bladder. I did this rather than wait for the operating room to be prepared. Three hours later I did a rapid suprapubic cystotomy. The bladder was highly inflamed and the surface at points was incrusted with salty deposits. The lateral lobes extended well up into the bladder, the median lobe being prominent, causing the internal meatus to assume the form of an inverted crescent. After consultation with the anesthetist and Dr. Richardson, who assisted me, we decided that it was best to rest at this point. Drainage was established and the bladder washed every four hours. Under general restorative measures the patient improved, was out of bed on the third day, and although slowly, he markedly gained strength. On October 26th, three weeks after the operation, he was again anesthetized with gas and ether, and a suprapubic prostatectomy was done. The three lobes were easily separated along their lateral surfaces, but it was a very difficult matter to separate them from the rectum. The patient was an extremely large man and the prostate was low in the pelvis. In spite of counter-pressure in the rectum, it was only after great effort that the gland came away in three pieces. When these were placed together it was seen that they composed the two lateral lobes and the median lobe. Parts of the prostatic urethra were also identified. The gland weighed 945 grs. and was evidently of the adenomatous type. After the method of Freyer, a large tube was inserted into the bladder and the patient returned to bed. On account of lack of facilities we would not establish continuous irrigation. The patient was out of bed on the fourth day and at the end of the tenth day began passing urine. The suprapubic wound healed at the end of the fourth week. The last I heard of him was on December 12th, at which time he said he could hold water well and was urinating only five times during the 24 hours, and was able to throw a good stream; that it was never necessary for him to get up at night and that he had gained strength.

DISCUSSION.

Herbert Bronner: I had the pleasure of being present at this operation, and I want to compliment Dr. Parsons upon the excellence of his work. I do not think there is any question as to the wisdom of the doctor's procedure in this case. I believe that, in a great many cases of prostatic hypertrophy, if the two-stage operation were performed, more of these patients would be saved.

There were two very interesting features of this case, one of which I believe the doctor failed to mention. This patient had the broadest and deepest symphysis pubis I have ever seen, and this was one feature that made the operation very difficult. Another was the decided adherence of the median lobe. He had a very large median lobe and in it were several pedunculated bodies which were responsible for the obstruction to urination.

I wish to compliment the doctor again upon his work in this case.

A. D. Willmoth: I think one point mentioned in the doctor's report is well worth emphasizing; namely, the establishment of drainage from the bladder other than by doing a complete suprapubic cystotomy at the time. These old men are always in bad physical condition, with the bladder infected, and when they present at this hospital with a distended bladder, it is the rule to do a cystotomy at once. Dr. Parson's procedure is the exception rather than the rule.

Many years ago Hunter Meguire devised an instrument, which was recently improved by Rodman, of Philadelphia, for draining and washing out the bladder in these cases without making it necessary to put the patient to bed. It is simply a trocar and canula, shaped like a tracheotomy tube. If you will permit me I will illustrate it on the blackboard. The canula has a caliber of one-fourth of an inch. The instrument has a flange at one end, in which are two eyelets. In the center of this is the canula. On the end of the canula, projecting beyond the flange a half an inch or an inch, is an enlargement. The canula is made of German silver while the trocar is nickel-plated. The patient with a distended bladder is seated in a chair, and the trocar and canula pushed rapidly into the bladder just above the pubes. It curves downwards and backwards far enough to carry it into the bladder. When it is in the bladder, two pieces of adhesive plaster are passed through the eyelets of the flanges and then fastened around the patient's body in such a manner as to make the flange fit close to the abdomen over some dressing. Then a rubber tube is placed over the enlargement on the end of the canula and carried down the patient's leg to a receptacle of some kind, preferably a rubber urinal. By this method the bladder can be washed out as frequently as desired, and the patient does not have to be put to bed, but is able to be up and walk around the hospital.

If you ever use this method, you will never use anything else for washing out the bladder to relieve these patients of the bladder infection that presents at the time we first see them.

H. J. Farbach: I think the most important thing, perhaps, in a man of this age, is to establish the function of the kidney, and possibly this had more to do with the good results obtained by Dr. Parsons than anything else.

M. Casper: The reporter mentioned the fact that this patient was a colored man, and that there was a lack of proper facilities. I think it is about time for the Jefferson County Medical Society to get together and see if we cannot provide better facilities for the colored sick of Louisville. Some little time ago I found it necessary to do a little operation on an old colored servant, and upon looking into the matter of hospital facilities I found that they were very scant indeed. There is only one hospital for colored people here, and all who have operated there know the lack of facilities in that institution. So far as I can learn, if a doctor has a colored patient with typhoid fever, for instance, or a surgical condition, there is no place to send them, aside from the City Hospital, except this little institution that I referred to. I think it is well to mention these facts and see if the society cannot get behind a movement to better conditions in this respect.

Geo. A. Hendon: I do not think there is any question as to the desirability of doing these operations by the two-stage method, and the most difficult cases we encounter are those in which, for some reason, we are unable to apply this very excellent plan. By the two-stage method we accomplish two very important things. One is cleansing the bladder, and the other is relieving the kidney of back pressure and thereby restoring the function, as mentioned by Dr. Farbach. The difficult cases are those which present insurmountable obstacles to this divided method. I had two such cases recently. One in which the bladder was filled with clots with the presence of a very soft and cheesy prostate gland, and we were unable to get any flow whatever by the introduction of a catheter, and were forced to go right on and perform the operation in a single stage. The objection to making the incision large enough to clean out the clots and cleanse the bladder was for fear the gland would continue to bleed. In such cases we encounter great difficulty because we have to go forward in the face of all these dangers, such as sepsis, incompetent kidneys, etc., and perform our operations as best we may.

Albro L. Parsons, (Closing): I wish to thank the gentlemen for their discussion. Dr. Farbach mentioned the kidney function. We could not have given this patient Murphy's proctocylsis if we had wanted to, on account of lack of facilities, so we gave him saline irrigations, six or eight ounces in the rectum every three hours until the kidney function was well established.

As to continuous irrigation, I wanted this because I believed it was the proper thing to do, but really, irrigating the bladder every three hours worked very well, and washed out the clots nicely. It was kept up every three hours for a few days and then dropped down to four times a day.

The trocar Dr. Willmoth mentioned is undoubtedly a very good instrument, but when we see a man with his bladder distended we do not always have time to procure one of these instruments. If there is one around the hospital it is all right. In this case something had to be done, and the quickest thing to do was to catheterize him. We had about decided to puncture the bladder but concluded that it would be best to first give him a chance through the urethra with an ordinary catheter.

TYPHOID VACCINE (PROPHYLACTIC).

(REPORT OF CASES).

By VIRGIL E. SIMPSON, Louisville.

A detailed report of each case in this series will not be made directing it rather toward calling attention to observations of certain results in common and citing some manifestations noted in individual cases and absent in the majority that were inoculated.

VACCINE USED.

The vaccine used in this series were obtained from the Laboratory of the U. S. Marine Hospital at Washington; Parke, Davis & Co., and Ledderle. There appeared a reasonable uniformity in the appearance and potency of the various products. In the case of each there occurred complete absence of reaction and some of the more severe symptoms. The variability of response seemed to be dependent upon susceptibility of individuals rather than variability in product used. In one case, for example, the first injection was from the Marine Hospital, the next from Ledderle and the last from Parke, Davis & Co., and a negative result obtained from each.

PERSONNEL OF SERIES.

With but one exception all of the series were of good physique and in their usual health. This exception was in the case of a travelling salesman who was of a nervous temperament, suffered from disordered digestive function of both stomach and bowel and was about twenty pounds under weight. Strange as it may seem under the ordinary laws of susceptibility, this case showed no reaction, locally or systemically, from the inoculation. Physical vigor did not seem to influence the degree of reaction. One of the severest responses occurred in a young farmer of splendid physique and robust health, while in another who was a physician, and, apparently, in perfect health and of vigorous type, was observed the mildest response.

DOSAGE, INTERVAL AND NUMBER OF INJECTIONS.

A quantity containing 500,000,000 killed typhoid germs was given at the first and 1,000,000,000 at the second and third injections. The vaccine from the Marine Hospital comes in glass vials, sealed, containing 5 and 10 c.c. and standardized on a basis of 1,000,000,000 germs to each c.c., the commercial preparations are marketed in similar fashion and are obtainable in 1 c.c. ampoules and are standardized on the same basis.

The interval between injections ranged from 9 to 16 days. It was endeavored to fix a uniform period of 10 days, but circumstances prevented this in all cases. No apparent difference appeared in the reactions on account of this variability though the series was too small to positively predicate conclusions. Some of this series received only two doses, the remainder were given three. In one case only one dose was given and in none were more than three administered.

SITE OF INJECTION.

Practically all of the injections were made in the abdomen. A few were given in the arm over the deltoid insertion. All were given intramuscularly instead of subcutaneously. I believe that all vaccines are better given intramuscularly and follow this custom as a routine procedure. The injections were made with an ordinary hypodermic syringe armed with an ordinary needle.

PREPARATION OF SITE.

Tincture of iodine was used in all the series to disinfect the site selected for introduction of the needle. The part was painted freely prior to the injection ,allowed to dry and repainted on withdrawal of the needle. No infection resulted in the entire series.

LOCAL REACTIONS.

In the majority of the cases a local reaction was noted. This consisted of a slight primary discomfort, burning in character due partly to the preservative used; in from 6 to 18 hours there occurred redness, swelling, and soreness on pressure or motion. The area of swelling varied from 1 inch to 4 inches in diameter, was firm to the touch, and reddened in color. This condition disappeared gradually covering a period of from 24 to 72 hours from the first evidence. It seemed that the average local reaction was more pronounced than that secured from other vaccines which I have used. In no case was there any decided local reaction with an absolute absence of some systemic disturbances. In two cases there was a very mild local disturbance accompanied by considerable general response.

It seemed that the degree of local effect served as a fair guide to what to effect in a general sense. No freak local conditions were observed in the entire series.

SYSTEMIC REACTIONS.

A slight febrile movement, general muscular discomfort, headache and malaise were commonly observed. The highest temperature noted was 101 following the first injection; in another case the local effects were almost entirely negative and no general discomfort was noted by the man himself but a temperature of 99.6 was noted the day following the first dose and practically the same conditions obtained at the second dose. Thirty-three per cent. of the series failed to show any evidence of reaction from the entire treatment; 40 per cent showed no reaction from the second dose; the percentage for the third injection is not given because of the failure of some to report for a final inoculation. In those cases where reaction did occur it was more marked after the first dose than after the second save in one case. In this person both the local and systemic effects were much more decided than had occurred from the first dose. This was the only one of the series that kept his bed on the day following an injection. In one case the reaction lasted over a period of four days and six pounds were lost in weight during the ten days immediately following the first dose. In another case the absence of comradeship between the brain and the body was striking. Following the first dose there was considerable reaction both local and general: a temperature of 101 and inexpressible sense of fatigue, physically. When standing wanted to sit, when sitting wanted to lie and yet the recumbent posture giving no sense of rest. With this marked indisposition to do physical work the mind seemed unusually active; a strong inclination was experienced to undertake some serious mental effort and at the same time felt too physically tired to hold a book to read or a pen to write.

AFTER EFFECTS.

Thirty-three and a third per cent. of those in the series that reacted stated that they seemed to feel better after the course of treatment was completed than prior to its use. The psychic factor could scarcely have played any part in sixty-six per cent. of this group. There were no decided gains in weight reported in any of the series. I was not disappointed in this inquiry as quite different conditions obtain in those recovering from an attack of typhoid and those rendered immune by vaccine.

DISCUSSION.

Edw. B. Richey: I have been extremely interested in this report of cases by Dr. Simpson. I think the use of typhoid vaccine is excellent both as a prophylactic and as a remedial agent. Its use as a remedial agent, however, was somewhat experimental with me. As a rule I have noted similar retraction and similar results as in the cases reported by Dr. Simpson, but in one case in which I used the typhoid vaccine the reaction was more severe than in any he reported, the temperature going to 102 2-5, prostration being extreme, the patient remaining in bed six days after the injection. The reaction was not so severe after the first dose, but the patient began to think, as he told me afterwards, that the remedy was almost as bad as the disease. After the temperature began to subside, the patient developed cold sweats and chills, which is unusual, the chills usually preceding the temperature.

H. J. Farbach: Personally I have not seen marked reactions following the prophylactic injections. I cannot agree with Dr. Simpson that we get better results from intramuscular rather than subcutaneous injection, because it has been proven that, especially in those instances where we are dealing with antibodies, the antibodies are formed chiefly in the subcutaneous structures and the spleen, and when we inject the vaccine into a muscle, we have to wait until it acts upon the subcutaneous structures before we get antibody production.

Virgil E. Simpson, (Closing): I remain unconvinced that the subcutaneous injection of vaccine is the preferable method, based upon the argument that antibodies are formed in subcutaneous structures. An injection of one c.c. of typhoid vaccine intramuscularly does not remain in situ; it is absorbed, and the production of antibodies follows its permeation throughout the body. I have been using vaccines by the method of introducing them into the abdominal muscles for about two years. I began it following the injections of vaccines into my own person. I would much rather have a sore abdomen than a sore arm, and I have practiced on my patients the same thing I prefer myself. I have observed that there is much less discomfort, in my own person, when I have introduced vaccines into the abdominal muscle rather than into the arm, and I have used vaccines frequently for both the prevention and the treatment of tonsillitis. I have also used typhoid vaccine on myself, and I gave it in all of these cases, except one, in the abdominal muscles, preferring the abdominal muscles to the hip or the back because certainly there is less motion required of the abdominal muscles for perambulation than of either of the other two.

I have arrived at some few conclusions, based partly on the small series of cases I have had and partly on the literature covering the observations of others.

1. It can be denominated a harmless procedure.
2. There is rather a wide range of manifestations of reaction with respect to degree.
3. The establishing of immunity, artificially, is apparently not followed by a tendency toward increase in weight.
4. A relatively larger number of people are immune, naturally, to typhoid than small-pox judging from the percentage of failures in inoculation and vaccination.
5. The greatest reaction follows the initial injection in a majority of instances.

REPORT OF SURGICAL CASES.

By Wm. H. Wathen, Louisville.

CASE I.—CICATRICIAL OBSTRUCTION OF VAGINA. CESAREAN SECTION.

In September, 1912, Dr. Montgomery called me in consultation to examine Mrs. P., six and one-half months pregnant. Fifteen years previously she had been delivered of a child by forceps, and the vaginal walls and perineum had been badly lacerated.

There was firm cicatricial closure of the entire vagina, including the labia minora. A sinus about the size of a crow's quill, just in front of the rectum, extended to the uterus, and through this the spermatozoa had passed into the uterus, having been deposited on the vulva.

I advised her to go to the hospital at about the eighth and a half month and have the child removed by Cesarean section. On the 18th of November she went to St. Anthony's Hospital and on the 20th I did a Cesarean section, removing an eight and a half honths' child weighing about five or six pounds and feeble. As I deemed it impossible for this small sinus to drain the uterus, I did an hysterectomy. She made an uninterrupted recovery and is now entirely well.

These cases are very rare, but this is another evidence of how a woman may become pregnant when we do not think such a thing possible. I deemed it wise to do an hysterectomy in order to save the woman's life and to prevent her from becoming pregnant again.

CASE II.—ADENO-CARCINOMA OF THE BODY OF THE UTERUS.

On October 26th, Mrs. U., was referred to me at St. Anthony's Hospital. On the operating table I found the vagina filled with a rotten mass of what seemed to be necrosed fibroid tissue. The uterus was also filled with it, and I removed all with my hand and a little blunt curette. The mass was about the size of a child's head. It was not attached to the uterus and there was no hemorrhage. The uterine wall was perfectly relaxed, and my finger introduced to the fundus could find no evidence of involvement. She returned home in a few days.

I was called to see her about four weeks later, and found a mass filling the vagina nearly as large as the first, and of the same character of tissue. She was taken to the hospital on December 6th, and after removal of the necrosed mass, I found an inverted uterus. The mass being attached to the fundus of the uterus had pulled upon it, causing a total inversion. This rotten tissue was all removed and apparently no disease left. The woman was about 60 years of age and in feeble health, having lost an immense amount of blood before I first saw her.

On the last day of January my son, Dr. Jno. R. Wathen, was called to see her (as I was out of the city) and found another mass, similar to the others. She was removed to the hospital where I saw her on February 1st, and found the vagina again filled with a rotten mass, which I removed and then discovered an involvement of the fundus of the uterus. After thoroughly cleansing the vagina, I removed the uterus. The patient is still in feeble condition.

I report this case because it appears to me to be of especial interest, for the reason that, from the physical appearance of the growth I could not make a diagnosis. At first I thought it was a necrosed fibroid tumor that had separated itself from the uterus. At the second operation I thought the same thing. On the third occasion, however, I came to the conclusion that she had some malignant trouble, although I had never seen a carcinoma or a sarcoma deport itself in this fashion. However, as the growth was so rapid each time, I thought it might be a round-celled sarcoma. Examination by Dr. Horine, however, proved it to be an adeno-carcinoma of the body of the uterus. His report is as follows:

"*Gross Appearance.* The specimen is the fundus of an inverted uterus with a yellowish-white growth upon the convex surface. The uterine portion is fairly dense but elastic while the tumor portion is soft and friable. Pieces were cut from several portions of the specimen and hardened in alcohol. Later these pieces were embedded in paraffin, sectioned and then stained with hematoxylin and eosin and with van Gieson's stain.

"*Histological Examination.* One section was made up of a fairly homogenous mass of cells with nuclei not very uniform in size. In this section, not very much stroma was present and necrosis was noticed in several places. Other sections showed more abundant stroma. The blood vessels were situated in the stroma and were well formed. Areas were observed in which the epithelial cells presented a gland-like arrangement. The uterine musculature showed considerable involvement.

"*Diagnosis.* Adeno-carcinoma of body of uterus. E. F. HORINE."

CASE III.—ADENO-CARCINOMA OF THE CERVIX UTERI.

On February 1st, I operated on Mrs. K. I had made a diagnosis of carcinoma of the cervix upon examination in my office. I cleansed the vagina, and after sponging it dry applied pure tincture of iodin; then going above, I did an abdominal hysterectomy, removing the entire uterus. There was no glandular involvement in the parametrium, and no apparent involvement anywhere outside of the cervix, except anteriorly where the malignant growth had penetrated the wall into the uterine peritoneum. Nowhere could I find the slightest involvement of the glands. The woman had been in bad health for probably a year. She is now nearly ready to leave the hospital.

After examination of the growth, Dr. Horine made the following report:

"*Gross Appearance.* The specimen is a uterus measuring eight cm. in length. The cervical portion consists of a hard mass extending above the internal os. The cervical canal was obliterated which led to the retention of 100 c.c. of a pyroid fluid in the uterine cavity. The walls of the uterus above the internal os were thin. Anteriorly and slightly above the internal os, the growth had extended through the uterine wall and had involved the peritoneum over an area one centimeter in diameter.

"*Histological Examination.* A section from the cervix showed the vaginal portion to be necrotic. The muscularis was infiltrated with masses of epithelial cells. These masses of epithelial cells were very closely packed together and only by close examination could one detect small central clear spaces. Other sections show the cylindrical arrangement typical of adeno-carcinoma.

"*Diagnosis.* Adeno-carcinoma of cervix uteri; obliteration of cervical canal; pyometra. E. F. HORINE."

Just a few remarks in regard to the second case reported. I have never seen malignant disease, either carcinoma or sarcoma of the uterus, deport itself as this one did—that is, the rapidity with which the growth developed, the rotten condition that separated it from its attachment, and the rapidity with which it again recurred. Cylindrical cell, or adeno-carcinoma occasionally arises in the fundus, but it does not deport itself as this case did.

As to the third case, I have never seen a case of malignant disease advance as far as this one had, anteriorly, through the wall above the bladder, and not go into the parameteria or the bladder wall. The bladder was entirely free of any involvement by the cancerous growth; so was the rectum and broad ligament.

Discussion.

DISCUSSION.

Chas. Farmer: I would like to ask Dr. Wathen why he did not do a complete hysterectomy in the second case?

W. C. Dugan: I would ask Dr. Wathen why he did not take out a piece of the tube and leave the uterus in the first case? It seems to me that this would have been a less dangerous operation and would have allowed the woman to go on to a natural menopause.

Wm. H. Wathen: I remarked that I removed the uterus because I did not think the woman would recover without it. The opening was so small that she could not possibly have passed the large blood clots. Therefore, it would have been unsafe to have left this uterus. Furthermore, in these cases the uterus is just about as easy to remove as the ovaries.

As to atresia of the vagina, most of these cases are congenital, but others are traumatic, just as in this case. In this case, with the scar tissue extending up so far, it would have been impossible to have established a vagina through which the child could have been born. Furthermore, it was not desirable that she should become pregnant any more. The congenital form of atresia of the vagina can, of course, usually be opened. They are not true atresias; they are failures of development. The Mulerian ducts, from which the vagina is developed, fail to produce a vagina; hence there is nothing but anterior and posterior walls composed of bladder tissue and the rectum. About twenty years ago I operated upon a case of this kind in a woman about thirty years old and married. I separated the walls of the bladder and rectum with perfect ease and the woman made an uninterrupted recovery and went home in two weeks. I advised her husband against her becoming pregnant, but within three months she was pregnant and in twelve months was delivered of a twelve pound healthy child without any trouble.

CESAREAN SECTION, WITH COMPLETE REMOVAL OF UTERUS, FOR OBSTRUCTING CARCINOMA OF CERVIX—MOTHER AND CHILD LIVING.

By C. B. Spalding, Louisville.

On December 26th, 1912, I saw Mrs. F., in consultation with Dr. Katzman. The patient came under Dr. Katzman's care only a day or so previously, having been formerly under the observation of a physician who moved from the city. Immediately upon examination by Dr. Katzman, the enormity of her condition was recognized, and, consultation advised. The personal history of the patient, is about as follows: Age 37, weight 177 pounds, height, five feet. One child, aged 18 years, one aged 10 years. Periods had always been regular before and after each of the two pregnancies. Has had no menstruation for the past eight months. Patient has noted a gradual enlargement of the abdomen, but claims that she was not nearly so large as during previous pregnancies. Patient has felt movement, for two or three months. Patient herself first noticed, as she explained it; "a knot on the neck of the womb," one year ago. This mass gradually enlarged, but gave her no pain, though, quite a little worry, because she did not think it should be there.

The family history shows that both her father and mother are dead, causes, unknown. She has three brothers and one sister living and well.

A local examination of the abdomen, revealed a large mass in the abdomen, more or less irregular in contour, apparently lying largely to the left side of the abdomen, a distinct mass was to be outlined just about the brim of the pelvis, with a seeming irregularity in the general contour of the remaining enlargement. I was unable at that time to elicit any movement, though Dr. Katzman assured one that he had felt movement distinctly the day before.

A speculum examination of the vagina, revealed a large friable-looking mass, about the size of one's fist, reeking with foul-discharge and lying in an accumulation of the same. A slight injury to this mass with the speculum, caused a profuse haemorrhage, necessitating subsequent packing of the vagina to control it. A manual examination of this region showed this mass to be continuous with the cervix, and apparently the external os was located directly in the center of it. There seemed to be no vaginal involvement, except the profuse discharge. My diagnosis was, that this mass was either a suppurating submucous fibroid, possibly having undergone malignant changes, or an original malignancy of the cervix. As for the abdominal condition, I realized the probability of a pregnancy, but could not assure myself of the length of it, being unable, at that time to elicit sufficient evidence. But Dr. Katzman was quite confident of the length of the pregnancy, having existed at least eight months, and also of the life of the child, which later proved to be exactly correct. We told both patient and her husband exactly what we had found and what would probably be the outcome in either event, whether operated upon or not. We offered them nothing if left alone, and only a chance, in the event of operation, as there seemed, every thing against a probable good result, but advised them that the one chance should be taken, by all means. They consented at once, but not wishing them to go into such a thing lightly, we advised them to think it over thoroughly, and report to us in a day or so. This advice, they accepted, and during the interval requested further consultation, suggesting Dr. Abell as their choice. This suggestion was most acceptable to both of us and on December 29th, 1912, Dr. Abell saw her with us, at St. Josephs' Infirmary. His examination confirmed our views about the vaginal mass, and bore out Dr. Katzman's idea of the abdominal condition exactly, he being able at that time to both elicit movement, and hear the foetal heart sound. His idea of an immediate operation bore out the stand we had taken exactly.

The date of the operation was set for December 31st, 1912. The general condition of the patient was fairly good. The lung examination was negative. Heart action was good, pulse 104, temperature 99. Urinalysis showed a normal quantity, no albumen, no casts, no sugar, no pus, no blood. Especially worthy of mention; her mental attitude toward the outcome was cheerful and thoroughly composed, which was quite a big factor in the ultimate handling of both the mother and child.

On December 31st, 1912, the operation was performed, Dr. Heim gave the anesthetic,gas-ether; Dr. Leachman cared for the child and Dr. Katzman assisted me. The vaginal mass was removed first, by grasping the base with my left hand, and cutting by touch (the size of the mass preventing a view) with scissors, well up on the vaginal wall and catching the vaginal edges, as I advanced with clamps. This enabled me to remove the cervix well up to the uterine wall, the cut uterine edge retracting and helping to control the bleeding. The vaginal wound was sewed up, controlling the remaining bleeding. Then the vagina was wiped out thoroughly with alcohol, and a strip of gauze introduced; which was withdrawn the next day.

While the patient was being re-arranged on the table, our entire outfits were changed; then by a median incision between the umbilicus and the symphysis, the abdomen was opened. A similar incision was made in the uterus and while Dr. Katzman grasped the blood supply about the neck of the uterus with one hand, I delivered the child, and turned it over to Dr. Leachman, who spent twelve minutes using artificial respiration before it breathed normally. The delivery was effected in five minutes, then without molesting the placenta, and holding the cut edges of the uterus together with a large tenaculum, the hysterectomy was completed, the entire abdominal work being completed within one hour and ten minutes. A drainage tube was placed in the abdominal wound, extending down to the cul-de-sac. This tube was removed January 9th, 1913. Luken's cat-gut was used, abdominal wall was reinforced with interrupted sutures of silk worm gut.

The mother's pulse ran about 140 while on the table, and she was returned to bed in fair shape. The child weighed five pounds, and is a male. The recovery of the mother was uneventful; the baby began to nurse about the third day, and has continued on the breast milk since.

The pathological findings as shown by Dr. John D. Allen, of the Research Laboratory, are as follows: "Glandular carcinoma, undergoing inflammatory degeneration, cervical tissue from uterus."

In looking into the literature, relative to such conditions, I found that Williams, in his book on Obstetrics, says that; "About once in 2,000 cases, according to Sarwey, pregnancy is complicated by carcinoma of the cervix," also that most of these cases occur between the ages of 30 and 40, and that in a majority of cases, the malignancy has occurred previous to pregnancy. He claims that pregnancy tends to bring about a rapid growth of the malignancy. Also he shows that about 30 to 40 per cent. of such cases abort, and that if they do go to term, they markedly increase the risk of infection, and spontaneous rupture of the uterus. "In 603 cases collected by Sarwey, the mortality at the time of labor, or during the puerperium, was 43.3 per cent, 8 per cent of the patients dying undelivered.

It is now, one month and 18 days since this operation was performed, and I am glad to be able to report that both the local and general conditions of the mother apparently are all that could be desired; she having gained six pounds since leaving the hospital and also that she is the proud possessor of a healthy strong boy, weighing to-day 10 1-2 pounds.

DISCUSSION.

J. Garland Sherrill: Dr. Spalding has reported a most interesting case, and one of which I think he may be justly proud. It is a very unusual occurrence and the case was handled in a very skilful manner. There is only one respect in which I feel that he might have done better, that is, had he left out abdominal drainage. Of course, he had a good reason for it, but my experience has been that, if we desire to drain at all after an hysterectomy, it can be done just as well through the vagina as from the abdomen. Other than this I have only commendation for the way in which he handled the case.

E. F. Katzmann: This case came under my observation just a few days before Dr. Spalding saw it. Upon examination, I found a mass in the uterus nearly twice the size of my fist (Dr. Spalding put it very lightly). Since then, I have wondered, if the case had gone on to full term and labor had set in, what the doctor in attendance would have done. Personally, I do not know exactly what I would have done under those circumstances, but I think I would have hustled her to an infirmary and done a Cesarean section.

Edward Speidel: Dr. Spalding is to be congratulated upon this case. Although statistics show that this condition occurs once in every two thousand pregnancies, only one case has been observed in fifteen thousand women delivered at the Chicago Lying-In Hospital. This infrequency is due to the fact that cancer of the cervix usually occurs during the menopause, and when it does occur during the child-bearing period it ordinarily prevents impregnation, the hemorrhage destroying the spermatazoa; or, if this is not the case, the attendant endometritis is inimical to pregnancy. Should pregnancy occur, it is apt to be interrupted, first because of the fact that the location of the cancer in the lower segment of the uterus, after the fifth month, interferes with progressive enlargement of the uterus. Thereafter, premature labor is apt to occur from two causes; first, the fact that, as the hemorrhage from the cancer increases, it is likely to cause the death of the foetus; and, second, because in this condition the placenta is generally located in the lower segment of the uterus, and the patient presents the complication of placenta previa with carcinoma of the cervix.

The doctor is to be congratulated upon his skilful conduct of the case because, as stated in the report, the very fact that a pregnancy exists coincident with the cancer, tends to cause a rapid proliferation of the disease, and in most instances when malignancy has progressed as far as it had in this case, the condition is inoperable. What the final outcome of this case will be, of course time alone will tell, but he is to be congratulated upon the result thus far.

Geo. C. Leachman: I consider myself fortunate in having seen the operation in this case. I think the doctor is to be doubly congratulated in that he has saved two lives instead of one. When the child was delivered my first impression was that it was dead or would not survive. I think about twelve minutes was required to resuscitate it.

I have never seen a Cesarean section performed with as little bleeding as in this case. My first thought when I saw this mass protruding into the vagina was that it was a sloughing submucous fibroid, and I must say I was rather surprised when I heard it was malignant.

It was one of the most interesting cases I have ever seen and it was unquestionably brilliantly handled.

C. B. Spalding, (Closing): I wish to thank the gentlemen for their discussion.

Just a word in reference to drainage. As I mentioned in the report, the vagina was a suppurating cavity, and there was no way of getting rid of the pus previous to the operation, because more was produced as soon as it was washed out. I did not deem it advisable to establish drainage from the cavity through this suppurating area; consequently I closed the vagina off to exclude it, but after getting into the abdomen, for fear there might be some seepage into the cavity, I used drainage.

Louis Frank: Did you find any glandular enlargement in the pelvis at all?

C. B. Spalding: I found absolutely no thickening nor enlargement of the glands. Near the junction of the vagina with the cervix there was a mass, but it felt more like a hernia; it did not feel like a gland at all.

PRIMARY PERNICIOUS ANEMIA.

(REPORT OF CASE.)

By Emmet F. Horine, Louisville.

Pernicious anemia was formerly a very rare condition but at the present time it seems to be on the increase. The cause for this apparent increase is certainly not given in the literature. The case here reported presented several interesting features.

Case, J. F., male, aged 53, American. Former occupation, molder; present, tobacco stemmer.

FAMILY HISTORY.

Father died of carcinoma at the age of 68. Mother died of an unknown condition aged 58, after an illness of one year during which time she was extremely weak and anemic. The patient had four brothers and four sisters but of these only one sister is alive. Three of the brothers died of a condition suspected to be tuberculosis each after an illness of one year, aged respectively 40, 33 and 22. The fourth brother died at the age of 56 of chronic nephritis after an illness of eight years. Three of the sisters died of a condition similar to that presented by three of the brothers each being ill for about one year. The age at death was 54, 40 and 22. The surviving sister has always enjoyed fairly good health although she is frail and anemic.

The previous illnesses are unimportant consisting simply of the acute exanthemata of childhood.

SUBJECTIVE SYMPTOMS.

Chief complaint, weakness. The present disease began about one year ago when the patient noticed that he was not so strong as formerly. During the past five months he has been getting weaker more rapidly. He complains of an occasional frontal headache; no appetite; slight insomnia; obstipation. During the last four months epistaxis has been troublesome. Has had no cough nor expectoration although one physician diagnosed the condition as tuberculosis.

OBJECTIVE SYMPTOMS.

The patient is very anemic although the adipose tissue is fairly well preserved. The skin presents a peculiar lemon-yellow color. The height is five feet and eight inches, weight 150 pounds. No abnormality of head or neck. Heart and lungs normal. Abdomen negative. The abdominal walls show a fair amount of adipose tissue. There was nothing abnormal with reference to the extremities and there were no palpable lymphatics. The pulse was 96, temperature normal and blood-pressure 100 m.m. hg.

The urine was normal except for a trace of albumin. An examination of the blood showed the following: Hemoglobin, 28 per cent; erythrocytes, 715,666; leucocytes, 10,600; color index, 1.97. The differential leucocyte count showed a lymphocytosis. The red cells were markedly distorted both in form and in size. Quite a number of large red cells with nuclei and a lesser number of smaller nucleated red cells were observed. The platelets were reduced in numbers.

DIAGNOSIS.

Primary pernicious anemia. The patient was given liquor potassii arsenitis in increasing dosage. Improvement was noted and two weeks later a second red cell count showed 850,000 cells. The hemoglobin was now 30 per cent. and color index, 1.81. At this time, the patient was taking twenty-four drops of Fowler's solution three times daily and was beginning to exhibit the toxic effects of the arsenic. Therefore the Fowler's solution was discontinued and a tablet containing arsenic trioxid, gr. 1-40 and Blaud's mass, gr. 5, substituted. He continued to improve and went to the country before I was able to make a third examination of the blood. The improvement continued for two months and then he gradually began to lose ground and I am informed that he died four months later.

REMARKS.

The family history of this case is interesting from the possibility of a family anemia. In the absence of reliable information, the possibility of the mother and three brothers and three sisters having died of essential anemia is of course highly conjectural. But it must be remembered that even with my patient, a previous diagnosis of tuberculosis had been made. This was ruled out by the physical examination and by the blood findings. It will be interesting to follow the future history of the single surviving sister.

DISCUSSION.

F. C. Askenstedt: Pernicious anemia and secondary anemias are easily confounded one with the other, unless an examination of the blood is made. Cancer is often mistaken for pernicious anemia and vice versa.

A leading symptom in pernicious anemia is the high color index, but (while I believe that Dr. Horine is as skilled in examining the blood as any one in the city) I am somewhat doubtful of the possibility of having a color index as high as 2 in any case. I do not believe that double the normal amount of hemoglobin can be crowded into the blood cells. We find a higher color index in pernicious anemia because the cells greatly vary in size and consist of a great many megalocytes and malocytes, which are larger than the normal cells, and this accounts for a color index as high as 1.1 or 1.2.

Some one has mentioned the advantage of giving iron in these cases. As stated before, we cannot crowd any more iron or hemoglobin into these cells than they already contain. Therefore, I think we can expect no benefit from the administration of iron.

The cause of pernicious anemia is, of course, obscure, but I think it has been pretty well settled that it is due to a haemolytic toxin, which acts directly upon the red blood cells, dissolving them. In order to make up for this great loss, the bone marrow is stimulated to hyperactivity, resulting in an excess, in the bone marrow, of partly formed red cells which are thrown out into the peripheral circulation before attaining their full development. Many of these cells are still nucleated when they reach the blood stream.

E. F. Horine, (Closing): As stated in the report, the color index was high and this is a characteristic point in pernicious anemia. As you know, the color index indicates the relative amount of haemoglobin in each red corpuscle. It is obtained by dividing the percentage of hemoglobin by the relative percentage of red cells. Normally in the male, the red cells should number 5,000,000. In the case reported the red cells numbered 715,666 which is 14.2 per cent of the normal. The percentage of hemoglobin was 28 which divided by 14.2, gives 1.97 as the color index of the case reported. Ordinarily the index in pernicious anemia ranges from 1.2 to 1.5 but cases with a higher index are often seen. Theoretically the color index can be much higher than 2.

Just a word in regard to treatment. Some men prefer Fowler's solution in increasing dosage while others prefer cacodylate of sodium. It has been held that arsenic does not necessarily increase the number of erythrocytes, but renders them less liable to destruction. I think it was Gunn who demonstrated this fact and claimed that a solution of 1 to 400,000 of arsenic would render the stroma of the red cells less liable to destruction. From this, we can understand why arsenic is of value. Iron is also valuable administered either by mouth in the form of Blaud's mass or hypodermically as the citrate or arsenite of iron.

One atypical feature of this case was the slight leucocytosis.

A CASE AF HEART DISEASE TREATED WITH NAUHEIM BATHS AND EXERCISE.

By J. Rowan Morrison, Louisville.

Mr. X., merchant, 62 years old. Family history negative. Had diseases of childhood. Rheumatism quite a number of years ago. Personal history: married, healthy children. Has led a clean life, but has been an excessively hard worker. Several years ago he began to have shortness of breath after exercise, and a little swelling of the feet. He was examined by a physician who found he had a mitral systolic murmur. After treatment he was relieved and went to work again. During the summer of 1911 he again had a break of compensation, accompanied by considerable albumin and casts in the urine, and enlargement of the liver. After rest in bed, stomachics and digitalis he was considerably relieved for a time and began to walk around but he was soon compelled to go to bed again. He kept so much in one position in bed, fearing to move that his joints became stiff and tender when he tried to move them.

When I saw him October 1, 1912, he was pale and emaciated and very despondent. His pulse rate was 86 to 100, generally regular with an occasional intermittence. Systolic blood pressure 140 mm. He was dyspnoeic on exercise. Liver two to three inches below costal arch. Abdomen distended with gas. Auscultation revealed mitral systolic murmur of moderate degree of loudness. Fine moist rales over base of both lungs. Haemoglobin 70 per cent.

As he had been on digitalis for a long time with no apparent effect except an irritable stomach I stopped it, and gave him gray powder every second day and a small amount of saline each morning. He was also given fifteen drops each of nux vomica and diluted hydrochloric acid before meals.

I had a masseur manipulate him gently each day until he could move with more ease, then I began a course of Nauheim baths following the instructions for giving these baths implicitly. He began to improve from the first and in a month could by gradually increasing the distance each day, walk a total of a mile within his home, and in six weeks walk up stairs once a day. By keeping him on a simple preparation of iron and a laxative each day he has increased in strength until he now walks a total of four or five miles a day, a part of which is up a graded incline, the angle of which I advised him to increase from time to time.

So with practically no medicine but with baths and regulation of increasing exercises this man has gotten up from his bed and is in fine condition.

DISCUSSION.

Curran Pope: Like the light from the lighthouse that flashes intermittently to the mariner at a distance, when his bark is trying to sail between Scylla and Charybdis into the quiet waters of the harbor beyond, it is indeed a pleasure to hear some one arise and present a result such as has been obtained in this case. Some of you gentlemen may perhaps realize that for twenty-two long years I have been trying to convince some of you that in the skin circulation as influenced by hydrotherapy we have one of the most powerful weapons at our command, not only in the treatment of cardiac lesions, but in the treatment of a great many other lesions of the body, both functional and organic.

I had the pleasure some ten or twelve years ago, to report three cases of this nature, and I have conducted quite a number of original investigations regarding the action of Nauheim baths, with and without exercise, upon the patient. Very few of you realize that we can sometimes actually get as much as one-half to three-fourths of an inch diminution in the size of the cardiac area immediately following the application of one of these baths. The action of the carbonic acid gas upon the skin, with the patient immersed in a tepid, cool, or cold bath, is produced by the irritation of the carbon-dioxide upon the peripheral terminations of the nerve endings, and dilatation of the peripheral vessels. Not a dilatation such as we get from heat, but a dilatation commonly spoken of by hydrotherapeutists as a tonic dilatation—a dilatation that acts a good deal like a suction pump in that the blood is drawn to the surface and the internal viscera relieved of the engorgement that naturally follows from an improperly propelled circulation. It is not brought about so much by the saline or the cold but more particularly by the action of the carbon-dioxide itself, but the carbon-dioxide acts better in a cool, saline solution.

It was possibly the liberal presentation that Schott gave of this treatment, and the fact that he spoke of it as being able to accomplish these results away from Nauheim, that gave to his original communication, some twenty odd years ago, its very great value, because the resort physicians of Germany have no better standing among the profession there than have the springs or resort physicians of this country, but Schott, in his original communication, so impressed the physicians of Germany, as well as other parts of the world, that it was taken up especially by Thorne, of London, who has done a great deal of work along this line.

It is not alone by stimulation of the peripheral circulation in the skin that the baths are a valuable factor in controlling the circulation. The load is lifted off of the heart. That is really what the Nauheim bath does—it lifts the load from the interior, off of the heart, and by opening the blood vessels of the skin allowed the blood to be propelled through the vessels with the least possible resistance. In other words, the Nauheim bath combines the vaso-dilator effect of nitroglycerine with the stimulating, contractive and muscle-developing properties of digitalis, without making the patient undergo the discomfort of nitroglycerine or the disturbing effects of digitalis. I have treated a great many of these cases in the past fifteen years, and I have always used in addition, between the baths, the application of an ice-bag over the precordial region. I think if the general practitioner would realize what a wonderful friend he has in the simple ice-bag, applied over the precordial region, in a great many febrile conditions and conditions of weak heart, there would be fewer drugs of the cardiac type administered. One beauty about the ice-bag and about the Nauheim baths is that, intelligently used, they never wear out. You can keep on using the ice-bag over the heart for hour after hour and day after day, if you know how to use it, without any lessening of its power. If one sticks an ice-bag over the heart and allows it to remain there for half an hour to an hour, it will naturally lose its effect. It accomplishes its work through its influence upon the peripheral nervous system. If you wish to use the ice-bag and repeat it constantly with the same good effects, alternate it with the application of heat—so hot that it is is almost unpleasant to the hand. The application of heat to the precordial region will act as a cardiac stimulant, remove the chilling effects of the ice-bag and make the nerves much more sensitive, and then on reapplying the ice-bag the natural reflexes become active again.

It is a deligthful experience for me to-night to hear some one else advocate those things which I have advocated, written and preached for many, many years. The time is coming when sectarianism in medicine is going to pass away, when you are going to refuse to be classed as a drug doctor, when you are going to refuse to be limited in your line of practice. It is almost a marvel to me—and I have noted it with a sense of regret—why the general practitioner will put behind him and refuse to accept and use so many hundreds of valuable little hydrotherapeutic methods that would make for the comfort of his patients and insure more rapid and better recoveries.

I wish to compliment Dr. Morrison upon his result, and express my personal appreciation of his report, at the same time indulging the hope that his enthusiasm will not be limited to the Nauheim bath, but that he will broaden out just a little bit and look in other directions for hydrotherapeutic results.

J. Rowan Morrison, (Closing): I wish to thank Dr. Pope for explaining the action of the Nauheim bath more in detail. I agree with him thoroughly in regard to the use of the ice-bag. Properly used, it is a most valuable therapeutic agent, especially in febrile conditions, to save the heart and strengthen it.

REMOVAL OF HAIRPIN AND CALCULUS FROM THE BLADDER OF A YOUNG GIRL.

By Herbert Bronner, Louisville.

Patient A. C., age 14. Child's father and mother are both living and in good health. One brother died of cerebro-spinal meningitis; one brother died of some urinary trouble, the exact nature of which could not be elicited from the parents; a sister died in infancy, cause unknown. Patient has had measles, chickenpox and whooping cough. She gives no history of pain over either kidney region, nor of an attack of renal colic. .

In the autumn of 1911, she noticed the first symptoms referable to the urinary tract, which consisted of pain on voiding and frequency of urination. These symptoms were exaggerated by motion and relieved by rest. During the Xmas week of 1911 she first noticed sudden stoppage of the urinary stream. This became so annoying that she felt that something must be interfering with the passage of urine, and conceived the idea of inserting a hairpin to remove this object. Instead of removing the stone she lost the hairpin. The symptoms became worse but she said nothing about the insertion of the pin, because, as she expressed it, she was afraid.

In February, 1912, the patient passed a small stone; in April, 1912, passed a second stone; in September, 1912, passed a third stone. The patient states that the third stone required three days to pass through the urethra, the passage being accompanied by excruciating pain. Since that time the symptoms became more aggravated and the patient was, at last, forced to seek relief.

At the time of admission to the hospital she was voiding eight to ten times in the day-time and three to four times at night; pain at end of urination was very great and accompanied by much tenesmus. Sudden stoppage of the stream occurred often. There was never any history of macroscopic bleeding. Examination of urine showed specific gravity, 1015; reaction slightly alkaline; albumin, large trace; pus in great abundance; moderate number of blood cells; granular phosphates.

First cystoscopy was performed January 2nd, 1913. Owing to the cystitis which was present the bladder was very intolerant, making this cystoscopy somewhat difficult. A large grayish-white stone was first seen and then a hairpin. The pin was only slightly incrusted in places and could be seen distinctly separated from the stone. Patient had told us nothing about the insertion of the pin, and only gave us the history of it's introduction after we had found it.

The child was put to bed and daily irrigations of boric acid were given. Under this treatment the cystitis subsided markedly, the bladder irritability lessened, and the tolerance increased to such an extent that six ounces were easily held, illustrating clearly the effect of rest on the symptoms of vesical calculus.

It was decided to perform a second cystoscopy in order to determine the best procedure to employ for the removal of the pin and calculus. This cystoscopy was performed January 8th, 1913, with great ease, owing to the better condition of the bladder mucous membrane. On this occasion the pin was plainly seen embracing the stone, the change in position being probably due to the manipulation incident to the first cystoscopy and the bladder irrigation. The stone was found to be so large that when immediately in front of the lens it obscured the entire field. In view of the findings it was decided that a suprapubic cystotomy was the best procedure.

Removal by dilatation of the urethra was not feasible in this case. The elder Keyes laid down the rule that, for stones, which when in the grasp of the forceps, have a diameter greater than 3-4 inch dilatation is a dangerous procedure. It can be readily seen that the removal of a stone such as this would have resulted most probably in rupture of the sphincteric fibres and incontinence.

Vaginal lithotomy we considered an improper procedure in a child. Howard Kelly says: "That the vaginal route is not available in children." Among other objections is the fact "that the operation is attended with much disturbance of the parts, requires overstretching of the vagina, sometimes section of the fourchette, destruction of the hymen, and, even in good hands, has not infrequently been followed by a permanent vesico-vaginal fistula."

The two procedures which remained were litholapaxy and suprapubic cystotomy. It was deemed best to adopt the latter operation, as it afforded not only a ready means of removal of both the stone and pin but also allowed of bladder drainage, which was very necessary in this case.

The child was operated upon January 10th, 1913, the stone and pin being easily removed. The bladder wall was found to be greatly thickened and bled freely. The child made a good recovery, leaving the hospital in five weeks, the wound having healed entirely in two weeks.

There were several interesting features to this case. In the first place, stone in the female bladder is comparatively rare. The writer has inquired of a number of the older surgeons here and it is rather remarkable how few cases men of large experience have seen. Mr. Freyer, of London, who has had an enormous experience with stone, states, that in his practice amongst 1,361 operations for vesical stone, there were only 31 operations in females, or 2.28 per cent. Stone is very common in Russia. In the Moscow Hospital reports for forty years there were only four cases in women in 1,792 stone cases. Coulson, a great English authority in a report on 2,834 patients found 123 in females or one to twenty-three. White & Martin state that the proportion of calculi found in the female bladder as compared to the male bladder is about one to twenty-two.

The cause of this scarcity of calculi in the female bladder is not difficult to comprehend. In the first place, because of the shortness and dilability of the urethra, small renal calculi which reach the bladder are as a rule easily passed. Secondly, stricture is a rarity in the female and there is, of course, an absence of the prostate. These two potent causes of residual urine and hence alkaline fermentation are not, therefore, found in the female as in the male, and hence secondary calculi are also rare.

If stone is not often found in the adult female we are prepared for the fact that it is rare in the child. Stone is found very frequently in male children especially among those of the poor where hygiene is bad and food insufficient and of improper quality. Freyer as above stated, found only 31 cases of stone in females and of this number only three were in children. In other words, only three out of 1,361 were in female children. Giraldes asserts that vesical calculus happens twenty-four times more frequently in boys than in girls while Neubauer found but five girls in one hundred cases.

The other interesting feature of the case was that the foreign body, that is, the hairpin, was introduced to remove a calculus. The usual history is that the foreign body is first inserted and then the calculus forms about this as a nucleus. A great variety of objects have been recovered as having been introduced into the female bladder, the object of their insertion being, most often, attempts at masturbation. But, in our case, the child gave a perfectly clear history of an effort to remove something which impeded urination. A case somewhat similar is reported by Gould & Pyle where a young girl suffering from retention introduced the handle of a tooth brush in order to relieve her suffering and succeeded in losing the handle.

We believe that this stone was probably of renal origin, having as most stones do in children, a uric acid nucleus. Subsequently, when the cystitis developed, a phosphatic layer was deposited on the original nucleus. The smaller stones were phosphatic in character, that is, so-called secondary stones.

DISCUSSION.

W. C. Dugan: I wish to indorse this method of treatment practiced by the doctor; that is, suprapubic cystotomy. I want to go on record as opposing the vaginal route. I think it is a dangerous operation from the very fact that the doctor has mentioned, the forming of a fistula. The upper route is so much easier, so much moie surgical and so much less apt to lead to bad results. However, I do not believe that any man who cannot avoid entering the peritoneal cavity should take a scalpel in his hand to operate on a case of this kind, since the bladder is so high up in the young. There is some danger of opening the bladder in those cases where the bladder is contracted from prolonged cystitis and there is some excuse for opening the peritoneal cavity under such conditions.

I believe these stones are uric acid, and that the explanation of why we find them so infrequently in girls is the one the doctor has given, because the urethra is short.

I wish to compliment the doctor upon his result in this case.

Robert T. Pirtle: I would like for Dr. Bronner to tell us in closing how he picked up the bladder and opened it; whether or not he used a sound?

A. D. Willmoth: First I want to commend the doctor on the procedure carried out in this particular case. The patient being a child, manipulation through the vagina was practically out of the question, the vagina not having sufficient lumen to permit of his going in there. However, I must take issue with Dr. Dugan in regard to the vaginal route where we have a woman who has borne children, and the lumen of the vagina can be very easily dilated. In such cases it is a very easy matter to go through the vagina, and even though a fistulous tract is left it is easily repaired. If you do not drain, a fistulous tract will not occur. You can put a catheter in the bladder, and with a few stitches in the vaginal opening, close it without any trouble.

I also wish to take issue with his remark that a man who cannot stay out of the peritoneal cavity should not take a scalpel in hand to operate. I want to modify that by saying that, if we do open the peritoneal cavity, we have not done the patient any great amount of harm. It has been shown by a number of men that one of the best ways to deal with a supposed malignancy of the bladder wall is to make an incision in the peritoneal cavity and look at it, remove what you are going to and close it up. It has been proven that the peritoneum will adhere much more quickly than the bladder wall itself. I wish to modify Dr. Dugan's remarks in that respect, so that if you do happen to open the peritoneal cavity you will not feel bad about it. Simply close up the peritoneum and the patient will be just as well off.

C. B. Spalding: I wish to compliment Dr. Bronner's method of handling this case and to indorse the suprapubic route. I believe it is by all means the preferable route, inasmuch as in the hands of a competent operator, there can be no damage to the bladder or peritoneum, whereas, by the vaginal route, it is an easy matter to get into the bladder but it is exceedingly difficult to get out. With a No. 10 French catheter it sometimes takes ten minutes to drain the infected bladder, but even such openings are often quite difficult to close, as is shown by the experience of some of the best men in the country. The suprapubic route should be the method of choice, all other things being equal.

Herbert Bronner, (Closing): Answering Dr. Pirtle, I will say that in a child the position of the bladder is so high that we can readily get an exposure without injuring the peritoneum. In this case I simply put in two sutures and cut the bladder on each side.

Irregularity in the Floor of the Acetabulum.—Breus states that there are now thirteen cases on record of what he calls Otto's protrusion of the acetabulum floor. Nine of the patients were women and in six the trouble was bilateral. He declares that there is no evidence to date that tabes can be incriminated; the joint lesions of tabes assume a different type. It may occur in a tabetic, but merely as a coincidence, or tabetic changes may be superposed on the pure Otto type which is merely the result of defective repair of some old loca linflammatory process.

FACIAL PARALYSIS.

(REPORT OF CASE.)

By A. W. Nickell, Louisville.

Diseases and injuries of the seventh nerve resulting in facial paralysis may be caused by lesions of the cortex, affections of the nucleus or diseases of the nerve trunk, in its course through the Pons, or along its tortuous path through the wall of the skull.

The supra-nuclear or that type due to lesions of the cortex or the facial fibres in the corona radiata or internal capsule is usually associated with hemiplegia.

The facial paralysis being on the same side as the leg or arm involved, because the facial muscles are related to the cortex in the same manner as the spinal muscles. On either side of the middle line in the medula, the nuclei of origin are united by decussating fibres with the cortical center on the opposite side. There are some instances of cortical facial paralysis associated with lesions in the center for the face muscles, which is in the lower region of Rolando. Isolated paralysis, due to some involvement of the fibres of the nerve, in its path to the nucleus is rare. Paralysis of the nuclear portion, caused by some trouble in the medulla or its centers, is a very uncomon occurrence by itself; but is seen sometimes in chronic softening, tumors, hemorrhage, etc.

One instance of it is reported in a case of anterior poliomyelitis. This center can also be involved in fulminating cases of diphtheria. There is only one interesting feature in conection with the involvement of that part of the nerve, which passes through the pons, which is really between its nucleus in the floor of the fourth ventricle and the posterior and lateral aspect of the pons and that is the so-called alternating or "crossed paralysis," the face being affected on the same side as the lesion and the arm and leg on the opposite side, because the motor path is affected above the point where the fibres cross in the medulla. But this only takes place when the lesion is in the lower part of the pons; if it were in the upper part of the pons of course the fibres, not of the outgoing nerve on the same side, but those from the hemispheres before they have crossed to the opposite nucleus would be involved. In this case there would be paralysis of the face and limbs on the opposite side to the lesion.

A number of causative agents can be responsible for this terible condition, the correct apprehension of which is the only foundation on which we can establish successful treatment. The etiological factors are those caused before birth at the superior strait by the sacral promontory or ischiatic spines at the inferior strait. Forceps pressure at birth, A few cases are reported from intra-pelvic tumors, causes after birth are same as in adult life, but less common. Most common cause is cold, eg. patient sitting in draught on a cold day taking a railway journey, which develops a neuritis, the so-called rheumatic palsy. Ear disease, if suppuration and caries be present, but may develop from inflammation of lining membrane of tympanum, if bone disease isn't present. Mumps, retro-pharyngeal abscess, infectious diseases, eg. diphtheria, tumors of the cerebellum, basilar meningitis, fracture at the base of the skull, mastoid operations, or operations in regions of ramus of the jaw, neglected otitis media following scarlet fever, a blow in front or behind the rear, syphilitic gummata. We have a few non-traumatic cases, where the onset is sudden and palsy complete with evidence of cerebral disease which are very obscure, but are nevertheless due to hemorrhage in the nerve sheath or Fallopian canal. Gowers has seen two cases and Wilks and Moxon have found hemorrhage after death. This affection reaches its height in from a few hours to a few days. In a typical case, reaction of degeneration occurs after a time.

DIAGNOSIS.

The question is always whether, it is central or peripheral in origin. The central form is distinguished from the peripheral by well defined symptoms. If central, there is persistence of the normal electrical excitability of both nerves and muscles, and absence of the involvement of the upper branches of the nerve, so that the orbicularis palpebrium and frontalis muscles are not affected; also the voluntary movements are more impaired than the emotional. Reaction never present in the central form and never absent in the peripheral disease. If taste is lost and the secretion of saliva is impaired the lesion is between stapedius muscle and the geniculate ganglion. Also if disease of nucleus, the orbicularis oris is unaffected.

PROGNOSIS.

Excellent from birth, pressure, diphtheria, etc. Great stress should be laid on the prognostic value of electric excitability of the nerve if not below normal at end of ten days recovery generally takes place in a few weeks. If at the end of two weeks excitability is lost it will be several months and the prognosis is relatively worse the longer the period of electrical excitability remains absent. Recoveries from neuritis. due to cold, are usually rapid; a number of recurrences are reported, Sinkler mentions five. But paralysis from injury, as a blow on the mastoid or over the exit of the nerve, may remain permanent.

TREATMENT.

The great principle upon which all rational treatment is founded applies here very forcibly, remove the causative lesion, if possible to do so. If due to ear disease a competent otologist should be consulted. In recent cases of peripheral origin due to neuritis of the nerve, hot fomentations should be applied in front and behind the ear, blisters over the mastoid, hot baths and frequent purging. If rheumatic, the salicylates; luetic, iodides, etc. Electricity properly administered to the paralyzed muscles improving their nutrition, and stimulating nerve conduction is of unquestionable service in cases not of central origin. The galvanic current should be used to revivify the nerves and the faradic the muscles. An important point in facial paralysis is to overcome the contraction and overaction of the healthy muscles, because their distortion prolongs the attack and counteracts the good effects of other treatment. This is best done by the rubber band and hook described by Keating, which creates an artificial muscle taking the place of the muscles useless from disease. By this simple apparatus the distortion is largely overcome, there is a return of the nutrition and functional activity of the muscles and the duration of the disease proportionately shortened. This should be accompanied with gentle massage and shampooing of the affected side. Some operators, however, advise operative procedures on those where the continuity of the nerve has been destroyed by injury or disease and where electricity has been used several months without any sign of return of function.

The anastomosis is made with the hypoglossal or spinal accessory and while they may fail to get complete recovery, such operation is claimed to restore the power of the affected muscles and greatly mitigate the deformity.

DISCUSSION.

Wm. A. Jenkins: The determination of the location of this lesion would hinge upon a careful investigation of the symptoms at the time they were manifested. It would have been very important to have determined, by the use of various substances, whether or not the patient had really lost the sense of taste on the anterior two-thirds of the tongue, and to have employed the watch test to determine the acuity of hearing on that side. That would have been the only way to have determined whether the injury occurred between the internal auditory meatus and the exit of the nerve at the stylo-mastoid foramen. Otherwise the case seems to fall into the type of peripheral palsy, the blow perhaps blackening the structures and passing into the stylo-mastoid foramen, in which case we would have typical involvement of the upper as well as the lower nuclei, and the whole side of the face, and the patient would be totally unable to corrugate the brow on that side.

The doctor, in his review, should have mentioned the fact that we may have a central paralysis without having a definite hemiplegia on that side. The involvement may be confined to one center, such as the arm area or the leg area. However, when we have this, and this alone, the patient always possesses the ability to close the eye and wrinkle the forehead on that side, because the nerve has two nuclei; it is enervated, not only from the opposite side, but from its own side. Therefore, when the lesion is central, we may or may not have a hemiplegia.

From the symptom group the doctor has given us, with indefinite conclusions concerning the hearing and taste, the trouble appears to have been typically and entirely a peripheral condition, as the manifestations were characteristic of paralysis of the peripheral portion of this nerve at about the point where it emerges from the stylo-mastoid foramen.

Milton Board: I think the concensus of opinion is that a large percentage of these cases are ongenital; that is to say, that the nerve is congenitally too large for the stylo-mastoid foramen, or too small. That explains why we have the condition recurring in a large percentage of cases upon exposure to cold, or traumatism, or whatever the exciting cause may be. In just how many cases this is true, we cannot tell, because, as a rule, most of these cases recover and we do not have an opportunity of following up the pathology. However, this appears to be the most plausible explanation of at least the peripheral type of cases.

In regard to treatment, while strychnin is recommended, I have never been able to see the indication for it, nor for the iodides in non-syphilitic cases. If the patient is syphilitic I suppose the iodides would do good. Personally, I think it is a good field for the use of intelligent massage by a professional masseur. I heartily approve of the use of the galvanic current for the reason that the massage does a great deal of good. Nearly all peripheral cases get well after a while. Very severe cases do not often get well under six months no matter what we do for them. Massage and galvanism will secure the end we seek.

Louis Frank: I was interested in hearing Dr. Board's statement that this condition often recurs. In my twenty-third or fourth year of life I had a facial paralysis, and I suppose I had better look out for a recurrence.

It seems to me that an essential factor in determining the treatment of facial paralysis is to ascertain whether the lesion is central or peripheral. When that has been done, the greatest question in regard to treatment has been settled definitely. Most central lesions are syphilitic in character, in which case the use of the iodides is indicated, and where the lesion is not central, the treatment mentioned by Dr. Nickell should be carried out.

I have had occasion to do some work on the brain recently and it has been interesting to note the effects of stimulation of the fissure of Orlando. For instance, in endeavoring to locate the site of the origin of epileptic attacks, the application of Faradic current to the fissure of Orlando was found to bring into play nearly all the muscles of the body, and it was a very interesting demonstration of the control exercised by a minute area of the brain over certain groups of muscles as well as individual muscles.

J. M. Ray: We see a good many cases of facial paralysis in connection with ear troubles, and I think the recurring cases may be explained by adhesions in the Fallopian canal. I have in mind a patient who has had three different attacks of facial paralysis. She will catch a cold and have the earache, accompanied by facial paralysis. The swelling of the mucous membrane, occurring as a result of the catarrhal infection of the middle ear, brings about a paralysis of the nerve, which lasts for several weeks and then gets well.

The type of facial paralysis of greatest importance to the ear man is that occurring in connection with mastoid operations. Every once in a while we have a case where the facial nerve is injured during an operation on the mastoid. Some one has called attention to the fact that the facial nerve will submit to a great deal of insult and recover. I have seen one case where the facial nerve was completely divided at a mastoid operation, yet recovery was eventually complete.

A. W. Nickell, (Closing): In regard to Dr. Jenkins' remarks, I will say that I had no way of testing this patient's taste, because I always saw him at my office, but the acuity of hearing was tester in the manner he suggested.

Regarding Dr. Board's statement as to the recurrence of this condition, that assertion is not borne out by the best pediatricians of this country and Europe—Keating, Fisher, Holt, Starr, Roullon, and others. Only about five cases in which the condition recured have been reported in the literature of this country. The literature on this subject is rather scant, but I have seen but one reference to the nerve being too large for the stylo-mastoid foramen.

I wish to thank the gentlemen for their discussion.

GUNSHOT WOUND OF ABDOMEN.

(REPORT OF CASE.)

By Charles Farmer, Louisville.

On December 21, 1912, I was called twenty miles in the country to see a lady who had been shot. I operated on her about six hours after the injury was received. She had been shot with a 38 calibre Colt revolver, six inch barrel, steel jacket bullet. She had two bullet wounds. One entered the neck one inch below the lobe of the right ear, passed beneath the ramus of the jaw, across the mouth under the tongue, knocked off a small piece of the alveolar process of the lower jaw to the left of the symphysis, broke off the left lateral incisor and canine teeth and split the lower lip.

The other wound was a perforating one of the abdominal cavity, the bullet entering the back three inches to the left of the median line and four and one-half inches above the crest of the ileum, emerging in front three inches to the left of the median line. The bullet ranged slightly downward, the wound of exit being about one inch lower than the one in the back.

She had bled a great deal externally from the wound in the back but this had practically stopped when I saw her. Her radial pulse was scarcely perceptible at times. She was not in a condition to be brought to an infirmary in the city. Feeling sure that some of the abdominal viscera had been wounded we thought it best to open the abdomen and ascertain what damage had been done. She readily agreed to this.

An incision was made in a line with the exit of the bullet at the outer border of the left rectus muscle. When the abdomen was opened two or three small blood clots were found in the cavity. I found a slight contusion on the inner side of the descending colon not of sufficient extent to need repair. After a further search I was unable to find any other injuries and closed the abdomen.

With the exception of a slight infection in the wound of the neck her convalescence was uninterrupted.

"It is estimated that in ninety-one per cent. of all penerating wounds of the abdomen there has been inflicted on some abdominal viscera an injury that demands immediate operation."

The case is interesting to me in that a bullet could traverse the abdominal cavity at a point that this one did and prodouce no injury to the viscera that would necessitate repair.

This patient vomited no blood, nor was any blood in the stools and never at any time any haematuria.

133 W. Chestnut St.

STRICTURE OF THE RECTUM.

(REPORT OF CASE.)

By F. T. Fort, Louisville.

M. G., 27 years old. Family history, mother living; one brother and one sister both living; father died of tuberculosis at the age of 27. Very healthy during childhood; married when not quite 15 years old; one child born when she was between 16 and 17 years old.

No history of any sore or lesion on privates. She gives a history of an eruption which nearly covered the entire body that appeared when she was about 18 years old, lasting for a period of about four weeks, no medicine taken except some sulphur.

About five years ago she began to have trouble with her bowels, and a year later was operated on for three fistulous openings and a stricture a short distance with-in the bowels, so soon as the soft parts were healed she began having the same trouble with her bowels which became gradually worse and to such an extent that when she came to see me on February 7th, 1912, she was afraid to eat, had lost considerable in weight and had begun to suffer a great deal of pain.

On examination of her rectum I found a short tubular stricture the calibre of which was not more than that of a goose quill, she could with an effort introduce with an infant's nozzle some water into the bowel and then with a hair pin could cause its return.

I advised an operation which she consented to, provided I would promise not to make an opening in her side, which I did.

On March 9th, 1912, at a hospital I had her anaesthetized, dilated her old stricture and cleansed out her bowel as best I could of old scybalous masses of fecal matter that had been accumulating for some time, after cleansing parts as best I could, I made an incision extending from the external spincter muscle to the left tuberosity of ischium, down through the fossa; then I began dissecting the lower end of the bowel from its attachment finally being forced on account of the close proximity of the stricture to anus, which was about one inch, and partly on account of old cicatricial tissue formed from her previous operation, I tore through the external sphincter on the left side and continued my dissection. After getting the bowel thoroughly loosened from the surrounding tissue I placed a clamp on the bowel just above the stricture and cut it squarely off, then I began cutting away the stricture and scar tissue and when I had finished, I found that I had been compelled to cut away the greater portion of the internal sphincter muscle. I then brought down the severed end of the bowel and sutured it to the margin of the anus and to the external sphincter muscle, using some silk and chromic cat-gut for sutures. I brought together the severed ends of the external sphincter, placed a drainage rubber tube in the fossa and sutured up the rest of the wound, after which I placed an Asman tube in the bowels to allow the escape of gasses, dressed her and put her to bed. I gave her morphia hypodermically to relieve pain and to prevent action from her bowels and on the fifth day I gave her a dose of castor oil. To my great surprise there was very little infection which I think was partly due to the Asman tube, and the wound healed very rapidly the patient leaving the hospital in three weeks.

After so much laceration of tissue I was surprised to find that she has good control of her bowels and she tells me that she never has any trouble with their control. I might add that she has now gained about twenty-five pounds in weight since the operation which has been three months.

Vaccine Therapy of Pruritus.—Schischlo reports the case of a robust army officer of 31, who twelve years ago had a series of itching furuncles and since then recurring large pimples on the chin with intense general pruritus, aggravated by excitement and temperature change and rebellious to treatment of all kinds, including sulphur baths in Japan and Russia, radiotherapy and courses of various drugs—all to no effect, and he was contemplating suicide. A vaccine was then made from pus from the chin and this vaccine w asinjected ten times at three-day intervals. Headache and lassitude followed the first injection, but there was no reaction to the others. The opsonic index dropped after each injection, but cilmbed up again by the third day each time to a little higher figure, while the drop was less. By the third injection the pruritus began to abate and by the seventh had ceased completely. The vaccine therapy had been undertaken solely as a last resort to heal up the suppurating foci on the chin. The cure of the pruritus had not been anticipated, so that suggestion can be excluded from the result observed. The healing of the foci on the chin probably dried up the source of the toxins which had been maintaining through the years the itching nervous affection.

Leukemia and Pseudoleukemia.—Ceconi describes a case of pseudoleukemia in a man of 60 which became transformed in the course of two years into typical lymphatic leukemia, sustaining the assumption of the identity of the two. Leube's leukemia, on the other hand, is merely a symptom, but as such it may be the only sign for a time of true leukemia, as also of cancer of the bone-marrow and of severe infections and intoxications of many kinds.

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VOL. XI. BOWLING GREEN, KY., MAY 1, 1913 No. 9

EDITORIAL.

THE STEADY INCREASE IN THE USE OF THE VACCINES.

The use of diphtheria anti-toxin, for both immunization and treatment, has long since gained such a recognized place in the scientific world that it would be as difficult to find a modern physician who would attempt to justify a failure to use it as to excuse the neglect of vaccination for a person or in a community exposed to small pox. The occurrence of cerebro-spinal meningitis in six widely separated counties in Kentucky within the last three months has given opportunity to put the Flexner serum to the test in the hands of many observers under the most varying conditions, and reports indicate that it has taken a firm place in the confidence of both the profession and the people. As might be expected, it has failed in the explosive cases, where the nervous system was so overwhelmed by the poison that death came before any counteracting influence could be exerted, and in some of the cases where it was used too late, but when promptly used, even in many cases which seemed desperate, it has justified all that has been claimed for it, saving many lives for which, before its discovery, there would have been no hope. The use of the typhoid vaccine for immunization and to a less extent for treatment has grown in favor during the year, and the thousands of doses sent into the flood districts in the last few weeks by the State Board of Health and the U. S. Government will furnish an unusual opportunity to test its value, if the careful observations and records are kept upon which all of these authorities are insisting. Many of those who have given it the fullest trial are impressed with the value of whooping cough serum for both immunization and treatment, as is true of the tetanus serum, especially for immunization, while opinions are in abeyance as to the serum for streptococcic and similar infections.

The State Bacteriological Laboratory has ample supplies of these sera, secured from the best manufacturers upon competitive bids, which can be sent to boards of health or physicians, and paid for by them direct to the manufacturer, the purpose being to work for the convenience and interest of both the profession and people in all these matters.

THE FLOODS AND THEIR LESSONS.

Except the frequently recurring inundations in the densely populated valleys of China, and that from the Seine at Paris last year, probably the greatest series of flood disasters of modern times, measured by the loss of both life and property, were those in Ohio and Indiana during the present month, with the lower Mississippi to be heard from later. Partly because the banks of the rivers are higher in Kentucky, probably because the rain fall was not so concentrated here, and because the people living along the Ohio river are more accustomed to and better prepared for floods there was little immediate loss of life on our side and the danger to our people will be from the unsanitary conditions which will develop as the waters recede.

President Wilson, with the powerful and practical grasp for affairs which has marked his official life, cut red tape and applied every resource of the Federal Government to the relief of the thousands who were homeless, as Governor McCreary did with the state machinery, and private contributions from every section of the country soon placed unlimited supplies and funds in the hands of those charged with the relief of the stricken communities. Trains and boats laden with food, medical supplies, disinfectants, physicians and nurses were rushed in, especially to the small towns, where the local relief forces were not so well organized and the suffering was likely to be greatest.

Dr. W. W. Richmond, a member, and as the special representative of the State Board of Health, gave his entire time to the flood sections in the southwestern counties, working in cooperation with the representatives of the U. S. Army, Navy and Public Health Service, the Red Cross Association and local officials, rendered invaluable help in relieving immediate suffering during the flood, and in organizing every available force to meet the unsanitary conditions which would develop as the waters receded. Dr. W. L. Heizer, with representatives of the U. S. Army, and from the State Board of Health of Indiana and Illinois, went with the Relief Boat which visited and carried supplies to cities and towns on both sides of the river from Louisville to Paducah. No other person or official in the State was more active in encouraging and directing this relief work than Governor McCreary, who rose to the occasion and earned the gratitude of the people of Kentucky as he has done many times before, just as President Wilson did that of the nation.

A NATIONAL DEPARTMENT OF HEALTH.

Hon. Robert L. Owen, Senator from Oklahoma, reintroduced his bill creating a Department of Health the first day of the called session of Congress and it will be published in the JOURNAL in an early issue. The bill provides for a Secretary of Health who will have a seat in the cabinet, in express terms transfers the U. S. Public Health Service from the Department of the Treasury, the Pure Food Division from the Department of Agriculture, the Bureau of Vital Statistics from the Department of Commerce, and gives the President authority to transfer any other service or bureau doing health work to the new Department from time to time as he may think best. The principles of the bill were made a party measure by the terms of the Baltimore platform, were warmly endorsed by the Efficiency and Economy Commission appointed by Mr. Taft and continued by Mr. Wilson, and with proper support from the profession, and from the intelligent, powerful and unselfish lay interests which have taken up this cause of the people, it ought to pass.

THE INCREASE OF HYDROPHOBIA.

Of all the benefactions conducted by the State Board of Health, none seems to be more helpful to both the medical profession and people, or to be more appreciated, than its free administration of the Pasteur immunization treatment to all persons bitten by rabid animals. Formerly the reliance of most such unfortunates was placed in "mad stones" or other mummeries, reputable physicians offering them no hope if the poison had once entered the circulation. In 1911, the first year in which the increased appropriations made the Laboratory available, eleven persons came to Bowling Green for this treatment; in 1912, fifty-three cases; within the past month, fifteen cases: all of them representing about equally the various sections of the State.

After making due allowance for the publicity given to the offer of this treatment without cost, there is evidence from many sources that rabies is increasing in Kentucky. For this reason and still more on account of the horrible character and suffering from the disease, and its recognized incurability, it is important that every physician and, so far as possible, every family, should know what to do at once, when any person is bitten by an animal suspected to be mad. The wound should be opened up, thoroughly cleansed and free bleeding encouraged, while a knife blade, crochet or knitting needle or similar clean instrument is being heated for a complete cauterization of the entire surface, reaching into every pocket or recess. Every hour's delay in using the cautery greatly increases the danger, and it is probably useless after twenty-four hours. It should then be dressed aseptically as would be done for any contused or lacerated wound.

Instead of killing the animal it should be securely confined and kept under careful observation. If it remains hearty for eight days there need be no further fear. If the dog has been killed, the brain, especially including the medulla oblongata, should be removed, put in a fruit jar and covered with pure glycerine, and at once sent to the State Bacteriological Laboratory, at Bowling Green, for examination, the injured child or person to follow if the result of the examination is positive. The only expense to the family, county or city, will be for travel and board, and as to the latter, an effort is always made to adapt this to the circumstances of the parties concerned.

This treatment is very expensive when given in private institutions, the serum alone costing fifty dollars, and the treatment covers a period of three weeks during which from twenty-five to forty injections are given. The Board is able to give the treatment free of charge only because the U. S. Hygienic Laboratory furnishes it the serum and this is done upon condition that it be used exclusively in the Laboratory, with every precaution as to asepsis observed, and that a full history of each case, including the results of the treatment, be made a matter of permanent record, and a copy of this be furnished for the files of the Bureau. The Board asks the cooperation of the entire profession in extending the benefits of this treatment to every person exposed to hydrophobia in Kentucky.

KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS.

The Kentucky State Association of Railway Surgeons will meet in Louisville on May 14 and 15. Dr. James B. Kinnaird, of Lancaster, is Secretary and this is sufficient assurance that an excellent program will be arranged. This is a very important meeting and it is hoped that every doctor in Kentucky connected with railway surgery will be present.

SCIENTIFIC EDITORIALS.

"TAKING THE WATERS."

In the current issue of *Everybodys' Magazine*, there is an interesting article, by our esteemed contemporary, Dr. Woods Hutchinson, in which he tells of one of the most common of the sane delusions of the laity.

In that happy vein which characterizes most of his public writings, Hutchinson speaks of the charm that is always attached to the rush and bubble that is found in mineral springs. That this has been handed down for countless ages and generations, is undoubtedly true, for primitive man felt that these bubbles were the result of the action of Dieties and that around springs lived nymphs and spirits that gave to the waters an added attraction and healing value.

From time immemorial, all religions and medieval peoples believed in the power of springs haunted by nymphs and fairies, and few, but what recall the beautiful classic of Narcissus, who searching for the face of the beautiful nymph in the placid and mirror-like surface of the water, saw his own reflection therein and fell in love with himself. The spirits of evil and of darkness, likewise possessed power, and thus it was with those springs that were hot and bubbling and threw forth vapors and foul gases. These attracted to them primeval man, who smelling of the water and tasting its disagreeable properties, thereupon decided that if it both smelt bad and tasted bad, it must be good for something, presumably for the ill, the sick and the diseased, for were they not possessed of the evil spirit of sickness? Was this *similia similibus curantur?* Being good for nothing else, it must be good as a medicine and this was borne out by the fact, that the sulphur waters being laxative in character, removed the excess of drinking and eating and this led them to believe that they possessed wonderful curative power when, in fact, by exercising ordinary care and precaution at home, would have been worth many "a ton of taking the waters abroad."

The prevalent idea is that the social dame and the hard-working business man can violate all of the rules of health and common sense, if they can have three weeks to take the "cure." This word "cure," which is an Anglicised translation of the German word, "kur," which means *course* not cure, has produced a great deal of mental confusion and given many waters a reputation they did not justly deserve.

Too often patients lost sight of the real factors of change of scene, of diet, of rest and recreation and alas! attribute all of the good results to the waters themselves and this, I am sorry to say, is often times fostered by the physician at the springs. We do not blame the hotelkeepers for such a position; that's business; but a medical man should certainly rise above such a plane; perhaps he does not do so because it may mean bread and butter to himself and those dependent upon him.

To use an Hibernianism, it may be said, that the "best mineral water is the one that contains the least mineral," in fact, as Hutchinson says, "the one thing that really does the business is the water, the plain wetness in fact." It is no exaggeration to say that clean or ordinary dishwater with the scum taken off would have as much curative value as many of our world-famous mineral springs such as, the Hot Springs of Arkansas and Virginia, Wiesbaden, Bath, etc.

He truly and tersely defines eight-tenths of the mineral waters of the world as would be "weak sea-water."

So far as the positive action of mineral waters is concerned, there are really only two classes; those that purge and those that do not. Every effect, be it upon skin, kidney, liver or any other organ, for that matter, is almost, if not entirely, due to the plain wet water that is swallowed by the patient.

Editorially speaking, Hutchinson is right and we cannot but believe that more people should read and consider this opinion of his. How a mineral water could be made, is described as follows: "In short, our most famous and world-renowned mineral waters have nothing in them which is not also contained in sea-water, whichever you prefer. There is not one of them, from the weakest to the strongest, which could not be manufactured in the seclusion of your own bedroom out of the hydrant-water, common salt, a little plaster scraped off the wall to give lime and plaster of Paris, and five cents' worth of any common laxative salt, such as Epson, Glauber's, or Crab Orchard. If you will warm the mixture and, striking an ordinary old-fashioned "stinker" sulphur match, inhale its fumes while you drink it, you will have any one of the world-famous hot sulphur spring waters in full perfection."

"An amusing feature of the whole business is that of all of this imposing list of salts which enter into most mineral waters practically only two have any definite medicinal effect upon the human body. These are the sulphates of soda and of magnesium, Glauber's and Epsom salts, which are powerful laxatives. A great many waters, including sea-water, contain both these valuable constituents; but only one or two contain them in sufficient amounts to produce any laxative effect unless at least a gallon be swallowed."

"The world-famous Carlsbad water, for instance, in its most potent "Sprudel" spring, contains exactly one hundred and forty grains of sodium sulphate (Glauber's salts) to the gallon. The ordinary laxative dose of this salt is a teaspoonful or sixty grains, and the cathartic a tablespoonful, or two hundred and forty grains. Reduced to figures this simply means that in order to secure a laxative effect from natural Carlsbad water one must drink at least half a gallon, and for a cathartic effect two gallons."

The writer of this editorial happens to have under his personal care three patients at present, who have been injured and upon one of whom an operation for appendicitis was rendered necessary by the use of a strong sulphur water, that is known the world over. There is one class of patients, however, that sulphur waters very greatly improve and that is the alcoholic. There is no question, but that the severe purgation, the absence of alcohol, the rest, etc., bring about very beneficial results, but between ourselves, this can be as easily accomplished in a good infirmary without the use of mineral waters as easily and probably more quickly than at the spring.

A still greater humbug than the drinking of the purgative mineral water, is the delusion of the mineral bath. In my work entitled: "Practical Hydrotherapy," I have the following to say: "Medicine from time memorial has had her faults, and hydrotherapy has likewise not been free from such delusions. I think it may be stated, with practically no fear of contradiction save by those who practice at mineral springs, that there is no evidence at hand to substantiate the statement that certain mineral substances dissolved in water have any especial value upon the cutaneous surface. It seems to me that these baths possess value, only as they produce the same thermic impressions upon the periphery that are to be derived from the use of plain unmedicated or simple waters * * * The author has visited many mineral springs and prides himself upon the fact that while he has tasted he has never drank any of the waters and has secured as much good and benefit from his sojourn as the most eloquent and flannel-mouthed exponent of their virtues. * * * The time is fast approaching when the medical profession should post itself thoroughly regarding this rapidly expanding farce. It does not mean that hydrotherapy shall not be utilized at springs, but that it should be utilized in an intelligent, scientific form, free from charlatanry and quackery."

Twenty-two years experience in the practical daily application of hydrotherapy for the prevention and cure of disease, has led the writer to the belief that in the external use of water, we possess a very powerful weapon. All the influences and all the far-reaching effects upon the skin, nervous system, circulation and internal organs, that is obtained by the application of water, could be obtained by any other thermic measure, were it as adaptable and as flexible as water. The universality of water, its cheapness, its ability to give up and absorb heat and cold, renders it an agent practically adaptable for the treatment of the sick and as far as any single weapon is concerned, I believe it possesses more curative power than any other. If we were limited to a single agent in the treatment of disease, the internal, external and eternal applications of water at varying temperatures and under different pressures, would more nearly and more completely fill the bill than any other remedy. But the practical physician of to-day does not limit his activities to one line of treatment, but utilizes all, and in the range of chronic diseases of all kinds, the external and internal use of water should play a prominent part and a failure to so utilize it is undoubtedly a medical mistake. It may be said in conclusion that plain unmedicated water is all that is necessary to bring about the physical and other changes that are well known and scientifically described in the text books upon hydrotherapy. Let us further remember that sanatoria and hydrotherapeutic institutions are far better places to send patients, than to mineral springs and baths, where they are especially in America, free to do as they choose and practice that abomination, self-prescribing. The sick need a physician, the more learned and scientific the better; and the more honest and truthful he is the surer is the patient to obtain those results that are so ardently desired. It is this propaganda of sense and reasonableness that makes a great deal of what Hutchinson writes acceptable to the thoughtful physician.

Curran Pope.

ORIGINAL ARTICLES.

WHEN IS OPERATIVE TREATMENT INDICATED IN CHRONIC DYSPEPSIA?*

By William H. Wathen, Louisville.

The stomach has been unjustly accused of more pathologic sins, and has received more unnecessary treatment than any other organ of equal size and importance. Nearly all of these transgressions are included under the general term "dyspepsia," about which much has been written and but little known until recently, when the pathology of the organs in the abdominal cavity has been correctly studied by direct inspection in the work of the abdominal surgeon.

We find in our best text-books on medicine beautifully written chapters on the classification, etiology, symptomatology, diagnosis and treatment of chronic dyspepsia, some of which have been copied and handed down for generations. These descriptions are full of errors as we now know from the study of the pathology of the living. The diagnosis was based mainly on theory and fancy, and was seldom correct; hence the treatment was empiric, and in the newer light of to-day is seen to have been often harmful. Unfortunately some of our best men who confine their work to the medical treatment of diseases of the stomach and intestines have not availed themselves of all the wisdom to be gained in the surgical arena by direct inspection of the diseased organs in the abdominal and pelvic cavities. The text-books on medicine tell us about acid gastritis, acid dyspepsia, hyperchlorhydria, flatulent dyspepsia and nervous dyspepsia as entities, when in truth most of these conditions are caused by gall-stones, appendicitis, peritoneal adhesions, pelvic infection, ileocolitis, intestinal tumors, etc., and the stomach is trying to tell us about a pathologic condition somewhere else that is giving it trouble.

The term "functional dyspepsia" should be eliminated from medical nomenclature, for if this disease ever exists it is so infrequent as to be practically negligible, and hyperchlorhydria is only a symptom, an increase in the secretion of hydrochloric acid, usually with no structural lesion of the stomach. Like the digestive enzymes, the secretion of hydrochloric acid may be increased or diminished by a change in diet and in other ways, as shown by Starling and Pawlow.

The effort to construct a pathology on chemical analyses of the stomach secretions has been a total failure, for practically the same chemical findings may obtain in several distinctly different diseases that cause the stomach trouble. The test-meal alone is of little value as an aid to diagnosis in either ulcer or cancer, and if we delay in the latter to confirm the diagnosis by this means, the disease will then have progressed so far that surgery can offer no relief. The presence of lactic acid, food remnants, blood, low acidity, and the Boas-Oppler bacillus, and the absence of free hydrochloric acid may be found in some cases of latent calloused ulcer and reflex pylorospasm, and are in no sense pathognomonic of cancer. In cancer there may be a normal or even a high acidity, and this is especially true when the pyloric end of the stomach is not involved. In such cases cancer may stimulate the pyloric glands to a more active secretion of acid.

While I do not deny that there is value in stomach analysis, it must always be subordinate to the clinical history and the physical examination. It is only an additional aid in diagnosis. Stomach analysis in chronic gastric and duodenal ulcer is of far less value in diagnosis than is stomach motility, which can be more correctly observed and more intelligently interpreted. The X-ray has been of much value in this particular in showing the motility in impaired stomach drainage.

Let me make a more definite classification of the causes of chronic dyspepsia, that we may have a more intelligent conception of the treatment best adapted to the cure of the trouble in the stomach, or to the removal or modification of the condition in some other part of the body to which the stomach is trying to direct our attention in a language of its own, much of which may now be correctly interpreted.

1. In 90 per cent. of cases of chronic dyspepsia there is no pathologic lesion in the stomach, and the conditions requiring operation in the entire gastro-intestinal tract, and

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*Read by invitation before the Chicago Medical Society and reprinted from The Journal A. M. A., Vol. LX., No. 10, p. 714.

all structures in the abdominal and plevic cavities do not exceed 30 per cent.

2. In about 30 per cent. the stomach trouble is caused by cardiac and kidney insufficiency, tuberculosis, arteriosclerosis, tabes dorsalis, etc.

3. Another 30 per cent. is caused by congenital or acquired defects in the viscera of the abdominal and pelvic cavities, plus gastrointestinal neuroses—gastroptosis, enteroptosis, atonic dilatation of the stomach, etc.

Stomach complaint is the most common manifestation in neurasthenia, especially inborn neurasthenia. It has been said that the abdominal surgeon has invaded the territory of the physician and has encroached on his field, but this is not true. The same was said when the surgeon began curing appendicitis by removing the appendix, but no one will make that contention now, and those who are best able to judge know that medicine does not cure appendicitis, and that purgation in every case of acute appendicitis is positively contra-indicated. It quickly increases peristalsis of the lower ileum, appendix and cecum, fills this part of the bowel with liquid, with a great increase in the number and virulence of the bacteria, all of which is positively harmful, and is often the cause of perforation or gangrene of an appendix which might have caused no immediate harm had it been left at rest.

I do not remember to have operated for several years in a single case of perforated or gangrenous appendix until after the patient had been given a purgative. There can be no conflict between the well-trained and honest physician and surgeon, as both are striving to accomplish the same end—to cure the patient. The duties of one do not always cease where the duties of the other begin, but there is necessarily often an interlacing to give the patient the full benefit of the knowledge of both. Far better would it be for all concerned if the physician would follow his abdominal cases into the operating-room and study with the surgeon the pathology of the living. He and the surgeon might then have a more intelligent agreement about the diagnosis and treatment of the case.

It is probably true that some of the best-known men in internal medicine, men who contribute much to medical literature, have seldom or never seen an abdominal operation in a living person. This necessity for studying by direct inspection the pathologic condition in the abdominal cavity that causes the stomach to complain is no less necessary in the study of all diseases in the abdominal cavity that have no stomach manifestations. Since this has been done the traditional fads and fancies in the diagnosis of these diseases are passing away like the snow when the warm rays of the sun shine on it. Pelvic cellulitis is now suppurative salpingitis; pelvic intraligamentary hematocele is now ruptured extra-uterine pregnancy; idiopathic peritonitis in the right middle quadrant and perityphlitis are now appendicitis.

We are told that tuberculosis of the bladder was always primary and that tuberculosis of the kidney was usually an ascending infection, and secondary to the bladder involvement. We now know that practically 100 per cent. of bladder tuberculosis in women is secondary to kidney involvement; the same is true of 85 per cent. in men, the other 15 per cent. being secondary to tuberculous involvement of the epididymis, vas deferens, seminal vesicles and the prostate.

We were told that chronic ulcer in the stomach was usually multiple and ten times more frequent than chronic ulcer in the duodenum. We now know that chronic ulcer in the stomach is multiple in about 6 per cent. of cases and that we have one ulcer in the stomach to three in the duodenum.

We were told that the ingestion of food in chronic ulcer of the stomach and duodenum caused pain and symptoms in the stomach immediately or soon after eating. We now know that it seldom or never does so except in old cases in which there is obstructed stomach drainage. In stomach ulcer food relieves pain for from one-half to one and a half hours, and in duodenal ulcer it relieves pain from one to three hours. This is so conspicuously true that a patient with ulcer in the stomach or duodenum will put bread in his pocket when he leaves his home or goes to his bedroom at night, to eat when pain returns.

We were told that gastric and duodenal ulcers were more frequent in women. We now know that about 75 per cent. of these ulcers are in men and about 25 per cent. in women.

We were told that in 90 per cent. of the cases gall-stones cause no symptoms, and that the gall-stones are innocent. We now know that there are symptoms in nearly every case of gall-stones and that gall-stones may at any time cause serious infections and secondary complications.

It will thus be seen that the surgeon who has built a new pathology based on direct inspection of the pathology of the living was often compelled to "tear down and reconstruct; he used the sledge-hammer and the crowbar as well as the trowel and the plumbline." While the bladder could be directly inspected through the cystoscope and the ureters and the secretion of the kidney by the ureteral catheter, and stone in the kidneys and bladder by the X-ray, no such record could be achieved by the gastroscope, and the X-ray has not been of much value except in inspecting stomach motility. It was therefore necessary to inspect the stomach and other abdominal viscera through an abdominal incision.

It was the gynecologist who made possible these great achievements by demonstrating in the surgery of the uterus and its adnexa that the peritoneum is tolerant to much manipulation when treated with reasonable respect, and by avoiding rough handling and the introduction of septic matter. The surgeon then began his invasions of the middle and upper regions of the abdomen, and must be given full credit for what he has done. In the investigative work of the abdominal and pelvic surgeon he has made the peritoneal cavity a research laboratory, and has given us the pathology of the living at a time when life may be saved by timely surgical intervention.

We must also give due credit to the excellence of the work done in the research laboratories in physiology, physiologic chemistry, bacteriology, etc., from the study of which so much has been learned of incalculable value to the surgeon and the physician in their treatment of all gastrointestinal diseases, and all diseases of the intra-abdominal viscera. Cannon, Pawlow, Starling, Metchnikoff, Cushing, Herter and many other research workers in the physiology of digestion and the motility and bacteriology of the gastro-intestinal tract have given us a practical conception of much that is necessary to a correct understanding of the pathology and the treatment of the diseases of the stomach and the intestines. The names of these men will live in history when the work of the surgeon will have been forgotten.

Before post-mortem investigation the practice of medicine was empiric and the diagnosis and the treatment of all internal and hidden diseases in the abdomen was based on fads and fancy. While the study of pathology in the dead was the beginning of the scientific study of disease, it led to pessimism, for it dealt only with end-results and showed conditions that did not exist at a time when the disease could have been cured "But few people with chronic disease die of the disease with which they suffered during life"; most die of terminal infections or secondary complications.

The cellular pathology of Virchow was another scientific advance, but as it mainly dealt with end-results it was for the time being of but little practical use in curing disease.

It may thus be easly understood that in diseases of structures in the abdominal cavity we can build up no correct pathology at a time when the patient may be cured, unless it be based on direct inspection, through an abdominal incision, of pathologic conditions in the living.

The 30 per cent. of dyspepsia caused by general diseases is never surgical, nor is the dyspepsia cured by the application of treatment direct to the stomach. The treatment must be given to cure the disease that is causing the stomach to complain. The 30 per cent. caused by neurasthenia, atonic dilatation and gastro-intestinal neuroses will not be cured by treatment applied to the stomach. We must treat the condition that causes the stomach symptoms. The treatment of these cases is medical except in some cases of dyspepsia caused by ptosis of the right kidney and hepatic flexure of the colon, and midline ptosis of the stomach and transverse colon when the colon has remained fixed at the hepatic and splenic flexures.

In the first, the kidney and the colon may be elevated and fixed through a posterior incision, and in the latter we may sometimes obtain good results by shortening the falciform, the gastrohepatic and the gastrocolic ligaments, one or all as may be indicated by the condition, this to be supplemented by stitching the great omentum across the anterior abdominal wall 2 inches above the umbilicus, to serve as an apron for the stomach. Coffey has done good work of this kind, as have others by similar operations; but in cases of general enteroptosis with continued dyspepsia, operative treatment has done but little good. Most of these patients have inborn neurasthenia, and to treat them successfully we must begin with their great-great-grandparents, an undertaking beyond the limit of medicine or surgery. These patients and others with inveterate stomach trouble with acquired neurasthenia, gastro-intestinal neuroses and the gastric crises of tabes dorsalis have been persistently treated by the physician and the quack, and the surgeon has left his mark on the abdomen following a laparotomy for pastrojejunostomy. They have been treated by electricity, by Christian Science and osteopathy, have had their stomachs daily lavaged, and have taken all the vile nostrums of the advertising "patent-medicine" fraud, with about the same result. They continue to complain of stomach trouble and are only too willing to try something else.

Fortunately the surgeon in his treatment of these patients in the last few years has learned much that is of value in guiding him against doing unnecessary or harmful stomach drainage operations. The impaired drainage in these cases is the result of atonic dilatation and impaired stomach motility, and not of obstruction. In such cases gastrojejunostomy does not drain, can do no good, but has done much harm. No surgeon who should be recognized as capable of treating the diseased viscera in the abdominal cavity would now try to drain the stomach in these patients. Acute ulcer of the stomach or duodenum is toxemic, caused by septic foci in other parts of the body, and is never surgical unless it be for perforation. These patients either die promptly or recover in a few weeks. Hematemesis, with no characteristic symptoms of long standing, is not surgical for it may be profuse or fatal when no ulcer can be seen, and it requires a magnifying glass to see the general erosion or fissure from which the blood is oozing. Vomiting of much blood is not an unusual symptom in cirrhosis of the liver and enlargement of the spleen, and it may be caused by acute or chronic appendicitis. That appendicitis has a causal relation to the etiology of gastric erosion or acute and chronic ulcer is evidenced by the frequent association of these conditions, and the appendicitis often appears to antedate the stomach trouble. In Hutchinson's report of twenty-four deaths caused by postoperative hematemeses, twenty-one followed operations for septic appendicitis. Every abdominal surgeon of broad experience has observed the frequent association of a chronic appendicitis with dyspepsia, and has noted the fact that in these cases, if the stomach has no organic lesion, the dyspepsia is cured when the appendix is removed.

Dyspepsia in some degree is nearly always associated with gall-stones, the removal of which cures the stomach trouble. The same is true when the dyspepsia is caused by intestinal or peritoneal adhesions or pelvic infections. When the exciting cause is removed the dyspepsia disappears. This, however, presupposes that there is no lesion in the stomach or elsewhere that may cause the dyspepsia. It is not infrequent to find in these cases an association of chronic appendicitis and gall-stones, and we may also find stomach or duodenal ulcer, to which peritoneal adhesions, pancreatitis and pelvic infection may sometimes be added. Just here lies the necessity for the surgeon because the patients were not cured; he was accused of doing unnecessary surgery, when he should have been censured for not doing enough surgery.

In my operative work in the abdomen I never fail to make the most thorough examination of all the viscera of the abdominal and pelvic cavities except in septic cases, and in cases in which the condition of the patient is such that any continuance of the operation would endanger the immediate result. Were I to report in detail the many cases of chronic dyspepsia of long standing, with no stomach or duodenal lesion, which have come under my observation and been cured by the removal of all the pathologic conditions in other abdominal structures, the report would be too long for any one to read.

There is but one treatment that can cure the inveterate dyspepsia caused by calloused gastric or duodenal ulcer, and that is surgery, and always surgery. The symptoms may subside under other treatment, by diet, rest and the observance of correct hygienic and sanitary laws, but the disease is not cured; the symptoms have disappeared to return at another time. This is conspicuously true in duodenal ulcer. Some of these patients have been cured many times, but the symptoms always return, and in the cases of permanent cure there was an error in diagnosis; the patients never had calloused ulcer. They are always made worse in cold, damp weather, and they improve or may be entirely cured of symptoms in warm, dry weather. They are made worse by worry and overwork, but if the worry is removed and the work lessened they improve. A change from a damp, cold climate to a warm, dry climate will be followed by much improvement, or even by cure of the symptoms. These seasonal changes are so manifest that patients who can afford to do so will change their residence with the change in season. The above is true in a lesser degree in chronic calloused gastric ulcer. The anamnesis in these cases, particularly in ulcer of the duodenum, is of greater value in diagnosis than are all other symptoms combined.

While the treatment of chronic gastric and duodenal ulcers is operative, we must always be able when the stomach or duodenum is exposed to demonstrate by sight or touch, or by both sight and touch, the presence of an ulcer. This can be done, for the ulcer has invaded all the layers of the wall. If no ulcer can be seen or felt, the abdomen should be closed at once, unless a pathologic condition that the stomach has been trying to tell us about can be found somewhere else.

In all cases of duodenal ulcer and in nearly all cases of gastric ulcer a gastrojejunostomy is indicated. In duodenal ulcer the ulcer should be infolded by several linen or silk sutures introduced from side to side and deep enough to include the vessels going direct to the ulcer. Excision is seldom indicated because the patients are cured as well without it, and cancer seldom, if ever, develops in a duodenal ulcer. As nearly 75 per cent. of cancer in the stomach develops in a chronic ulcer, then in addition to the gastrojejunostomy the ulcer should usually also be excised. In many of these excised ulcers McCarty and some other pathologists have found well-developed carcinoma.

In conclusion I wish to note that 90 per cent. of ulcers in the stomach are in the lesser curvature, and that 90 per cent. of ulcers in the duodenum are in the first inch of the bowel; that 25 per cent. of calloused ulcers are in the stomach and 75 per cent. in the duodenum, and that gastric ulcer in multiple in about 6 per cent.; and that 75 per cent. of gall-stones are in women and 25 per cent. in men. In every case of duodenal ulcer there is an excess of free hydrochloric acid at some more active phase of the disease, and this is practically true in stomach ulcer, but to find the excess frequent examinations must be made at different stages of the trouble. In every case of duodenal ulcer, and in all or nearly all cases of stomach ulcer, free or occult blood will be vomited, or found in the feces if the examinations are repeatedly and correctly made. Dr. Craven Moore, of Manchester, one of the most painstaking pathologists in England, reports that in a long series of cases he found in every case an excess of acid, and occult blood in feces. While ulcer in the pyloric canal of Jonnesco is relatively infrequent, I recently found in two cases in which I operated open perforation just proximal to the pyloric vein.

SYMPOSIUM ON PELLAGRA.

PELLAGRA.*

By J. G. Owsley, Lily.

In writing this paper, I shall give the experience of some of the best authors on this disease as well as my own clinical experience. To do the subject justice would require pages of paper to give the causes, symptoms, treatment, etc., but in an article like this it is necessary to abreviate as much as possible.

Pellagra is defined as endemic malady, characterized by an erythema upon the exposed surface of the body, by gastro-intestinal disturbance, and by nervous and psychic phenomena. This definition is really not complete but is the best that can be had at present.

There are a great many synonyms for this disease, some of which are Alpine scurvy, Asturian leprosy, Austrian rose, disease of the landes, psychoneurosis maidica and many others, taking the name from the place where the disease prevailed, or from the nation of people who named it.

Frapolli is the man who gave the disease its present name, *pelle,* skin and *agra,* rough; therefore, rough skin, meaning that after dermatitis has set up and desquamation follows, leaving the skin rough.

This seems to be a very ancient malady in many parts of Europe as an account of it was given in the hospital Major of Milan, in 1578, however, the first scientific account of it was given in 1735 by Gasper Casal, in Spain and about twenty-five years later it appeared in Italy.

At one time it ran very high in France, then suddenly disappeared as if by magic and to the present time this country practically has no pellagra.

From some cause pellagra does not find favorable soil in England, but in 1847, Pruner first recognized it in Africa and it has also invaded some of the islands of the West Indies, South America, Central America and Mexico.

We now come to consider pellagra in the United States which will interest us more as it is nearer home. As early as 1863, Dr. Gray, of Utica, New York, discovered one case and one by Dr. Taylor, of Sommerville, Mass.

During the Civil War we find quite a number of cases in Libbey Prison, at Richmond, Virginia, and at Andersonville, Ga., where the prisoners lived principally on damaged corn and other articles of unwholesome food. They complained of the eczema, and how their food served them after they ate it, how their skins were rough and hard, how their hands were sore and cracked, and how their bowels were chronically loose—so much so much so that there was a pathetic joke that a prize would be given to any prisoner having a solid fecal movement.

No doubt a great many cases have existed in a great many parts of the United States, especially in the southern states, such as: elephant itch, seven-year itch, country scurvy, poisoned oak or ivy, but most of all *eczema,* that medical mantle that covers so many slip-shod diagnoses. However, under all these circumstances, we were lacking for definite information regarding these cases until the summer of 1908, when Drs. Babcock and Watson, of Columbia, S. C., went to Italy to study the disease and on their eturn they began to write about it, and many other physicians could recall many other cases to memory; hence, we conclude that pellagra has been in this country for many years but its nature was not known, nor is it well understood by any means to-day.

This brings us now to consider some of the causes of the disease, and as these have never been satisfactorily worked out as yet it cannot be definitely told just what the causes all are, but at one time there were two schools in existence, and it is to-day to a great extent. The one believes that spoiled corn, or maize is the great cause while the other opposes this view. Let us consider for a moment the difference between sound and unsound corn. The sound corn will appear hard, firm and flinty, the kernel will be plump and the corn will not impart any odor. On the other hand the unsound corn will appear to have awrinkled or cracked hull, its color of old gold, its lack of luster with the embryo enlarged and sometimes blackish in color; its odor is sometimes like that of a musty smell. It is said that a fair way to test spoiled corn is to put it in 90% alcohol, and both the corn and the alcohol will turn to a deep red, and if the corn is sound the change in color will not occur.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

There are a great many microorganisms found in spoiled corn and a few of them will be here named: The *sporisorium maidis* is the best known parasite of spoiled corn. Balardina, who first isolated and experimentel with it, found that when eaten by man for any length of time it would produce gastritis, and diarrhea; the *penicillium glaucum* is another parasite of spoiled corn, and another of less importance is the bacterium maidis, and many others could be mentioned. Any of these are supposed to produce pellagra as argued by the one school above mentioned.

Bass, of New Orleans, conducted a series of experiments on chickens, two and a half and three months old, in which he fed them spoiled corn for thirty-eight days and one foul had developed symptoms resembling pellagra in man, by having several attacks of diarrhea, the legs below the knees turning red and inflamed, and bloody fluids oosing through the cracks in the skin, after several days the skin peeled off the legs just as it does off of man.

Experiments have been made by injecting cultures from spoiled corn into dogs, pigs, and frogs with symptoms varying from the slightest to death.

Dr. C. H. Lavender proves that pellagra made its appearance in Spain, France, Italy and other ocuntries when the maize was first introduced and he proves further that in some countries where the maize was raised and pellagra was found in abundance that it entirely disappeared when the cultivation of corn was discarded.

Dr. Sambon and others, lead that school of which I spoke above and do not believe in the maize theory, but believe that pellagra is caused by the *buffalo gnat,* of which he describes three varieties. He recites an instance of an illegitimate child that was born in an Italian jail, after five months it was adopted by peasants who lived near a large course of water and the child developed pellagra within two weeks after being exposed to the bites of the buffalo fly, although it had never eaten any corn of any form. Just here it might be mentioned that Dr. Bass thought he had found an exception in a lady who had pellagra, and she and her husband claimed that she had never used any corn at all, when it was accidentally discovered that she ate as much as a pound of corn-starch daily.

Another cause of pellagra advanced by Dr. G. C. Mizell, that the disease may be traced to the injection of semi-dried edible oils, but this has not found much favor with the medical profession.

Still other causes of this diseases may be mentioned, poverty, for in rural districts where poor people live and where the hygienic surroundings are bad, is where the disease rages most; also, hereditary has something to do with it.

Ill health and run down system have a great deal to do with bringing on pellagra and, to my opinion, a disordered digestion is an important factor.

Of all the theories that are advanced, corn seems to take the lead, but suffice it to say that it yet remains for some one to get the distinction of finding out the exact cause or finding whether or not any of the theories are correct or not.

I shall next consider some of the symptoms of this disease, although there is a paper to be read before this Association, almost entirely on the symptoms, yet I cannot refrain from saying something about them, and if the next paper is partly a repetition of this one, I hope you will not consider it a burden, because many pages can be written on merely the symptoms and yet not cover they all.

As I have had quite a number of cases, I shall give my own experience for it seems that nearly all the cases that have occurred in my county, Laurel, have been in the territory where I practice medicine.

Pellagra is, usually, a very chronic disease, running for many months or years, and often the symptoms will come on as a fre-runner long before the disease is suspected, if the physician is not on the alert. I do not doubt but that many physicians, including myself, have treated cases of this kind before we really knew what it was.

The symptoms of most prominence that effect the principal organs of the body are: Digestive disturbance, dermatitis, and derangement of the nervous system.

One amongst the first things that the patient may notice, to cause him to consult his family physician is the stomatitis or sore-mouth. On examination the buccal surfaces and the gums are found to be a deep red color and sometimes aphthous patches are found and even ulceration. The tongue may be coated centrally, or may not be, but nearly always the edges will be denuded of the epthelium and have a slick, shiny appearance. The salivary glands are, usually, very active, sometimes the saliva dribbling from the mouth. The mouth is very sore at times, the patient complaining of pain and burning in the mouth and stomach. One thing that is not mentioned by many writers and that is the sores in the corners of the mouth, often the mouth will heal and still the corners will be raw and sore. The stomach is usually disordered, something similar to gastritis; there may be pain, and I had a patient who vomited persistently for a week or ten days before she died. There is usually more or less discomfort and distress about the epigastric region. the bowels will give the symptoms of intestinal indigestion, more or less colicky pains and one symptom that never fails to make its apearance sometime in the course of the disease, and that is *diarrhea.* In all the cases that I have had, it came on sooner or later and in some instances it cannot be controlled. In some cases it can be checked for a time but will return again in the future. The feces is generally soft and watery, has a dark color and one thing I want to call attention to, and that is the odor which is so offensive. I believe that when the physician has detected the odor of the feces of the pellagrin a few times, he can almost make his diagnosis from that alone.

Another thing, persons having pellagra, seem to lose control of the sphincter muscles of the bowels to a degree till they sometimes pass feces involuntarily.

Another very important symptom that comes on early in a vast majority of the cases and one that clinches the diagnosis more than any one symptom, is the *erythema* and since pellagra has come to be known, I do not doubt but that many cases of different forms of eryphema have been diagnosed as pellagra which do not resemble it in the least. We should be careful lest we err in our diagnosis.

This *erythema or dermatitis,* comes on in the spring or summer and makes its appearance on the arms and hands, extending up the forearm to the point to meet the sleeves or higher if the patient wears his sleeves rolled up, or it may be on the feet and legs if the patient goes barefooted, or it may be in the face, or on the back of the neck, or it may be on the breast where the neck of the clothes are worn low, or any part of the body where the garments are not worn, but never comes under the clothing. It comes on in a very short time and resembles a "sun-burn," usually having a red color. Nearly every patient coming to me, say they have a "sun-burn," or "tetter" or something of that kind, and they will often give a history of its coming on for several summers previous. This dermatitis will gradually fade away, roughen up, peel off, leaving the tender cuticle exposed, which heals only to break out again probably two or more times in one season. During the time dermatitis is at its height, the patient complains of much pain and a burning sensation as though the parts were burned by fire, or often of pins sticking in the skin, and the like.

Not long since, I had a patient who had the burning so great on the hands that she would constantly blow on them or keep them swaying to and fro in the air all the time. The dermatitis is always symmetrical on both hands and arms and also the feet and legs when it appears on them, extending as far up one as the other, and exactly in the same shape.

As has been said before, the diarrhea and dermatitis always appear sometimes in the course of the disease, but the nervous phenomena does not appear in all of them. Some do not have it at all while it may be the first symptom noticed in others.

I had a patient who was in profound coma for a week or ten days before she died; others will have a slow stammering speech, and talk in a drawling manner; others will begin to talk on a particular thing and either stop abruptly in the conversation or break off to an entirely new subject; and still others will have a great deal of imaginary talk. I had another patient who became insane several days before she died, she would get frightened at pictures hanging on the wall, or imagine she would see many other objects and I had still another patient whose mind seemed to be all right one night when he went to bed, and on arising next morning he began to preach and sing and shout and perform all kinds of maniacal acts. I had him committed to the insane asylum where he died in about one month. I have had several such patients committed to the asylum. Another patient whom I had, waited on her daughter who died with pellagra late last fall and this mother would continually be rubbing the daughter's hands, and she took pellagra early last spring and died in the month of May. She had the worst infection I ever saw; it affected her nervous ystem so much that she would entirely lose her vision sometimes for several minutes.

A great deal has been written on the psychology of what effect it has on the mind in the course of this disease, but it is not thoroughly understood as yet. The patient will complain of shooting pains resembling locomotor cation, dysphagia, and sometimes early ataxia, burning surfaces, parasthesia, formication, dysphagia, and sometimes early tremors.

The desire for sexual intercuorse is partly or entirely abolished. Much could be written on the symptoms, but as I have not time to read all of them, I will next say a few words about prognosis. The average life of these patients is about five years—some live several years while others do not live but a few months, depending upon the severity of the symptoms. Just here the question may be sprung as to whether the disease is infectious or contagious, and to look at it from one view point, it seems to be infectious, as I have seen several of the same family afflicted with it. All the patients that I have at present are doing well.

The dermatitis have disappeared from most of them, their bowels are not giving them much trouble, and they seem to be improving generally. I treated a patient in the summer and fall of 1911, and seemingly she is entirely cured, as she has not had a symptom this year at all.

A few months ago I read an article in the Kentucky State Medical Journal written by Dr. Marvin, of Louisville, in which he very aptly used three d's in giving the symptoms and prognosis as follows: Diagestive disturbance, dermatitis, derangement of the nervous system, and he added the fourth d, which means death.

There can hardly be any mistake in making a diagnosis if we pay particular attention to the behavior of the diarrhea, the dermatitis, remembering that it is always symmetrical on both ands and arms, and these are two symptoms that are sure to appear, together with other symptoms, sometimes one prediminates and sometimes another.

As no specific has ever been found for the treatment of pellagra in the way of medicine, a great many drugs have been prescribed, and yet it is not known just how much they benefit the disease.

Dr. Niles divides the treatment into five different lines, as follows: (1) dietetic; (2) hygienic; (3) hydro-therapeutic; (4) medical; (5) climatic. I have tested them all except the climatic, which I have not had the opportunity to try.

As to the diet, one of the first things to do is to exclude all food made from spoiled corn, or corn products until the theory is settled as to whether spoiled maize brings on this disease or not.

As pellagra is a very exhaustive disease the patient should have strong supportive measures from the very onset. He should have the very best nourishing food that is easily digested and assimilated. I want to add here that pellagrins seem to bear meats real well, much better than from inflammation of the intestine from any other cause. Give them tender broiled steak; or roast beef or lamb. Grinding the meats is a good plan. Other good diets are: meat broth, coffee, milk, bread, good fresh vegetables, wine, rice soup or oat-meal gruel, baked potatoes and usually eggs, though it is to be remembered that every patient has his idiosyncrasies for or against certain kinds of food.

It is very important to follow hygienic rules in this disease. One of the first requirements of the patient is rest. He can take a reasonable amount of exercise, but no time beyond his bodily strength or nervous irritations or mental instability. If he is sick enough to be in bed, he should be in a quiet room where the surroundings are pleasant and cheerful, because these patients are inclined to melancholy anyway. Good ventilation is another very important factor. As the indirect rays of the sun seems to exert a great influence on the skin, especially in the spring time, the patient should wear gloves to protect the hands and forearms, a broad hat, a thick veil or umbrella to protect the face and neck. Pellagrins should be taught to thoroughly masticate their food so as to tax the gastro-intestinal tract as little as possible.

Regular hours for sleeping, rest and recreation should be enjoined.

One of the most important lines of treatment which I have carried out, is the hydrotherapeutic especially with the nervous patients. It seems to exert a stimulating effect on the nervous system . Give them hot or cold baths, simple and medicated, douching, packs, massaging, all these will bring about greater oxidation of the tissues, increase elimination, a sharpened appetite and a general improvement of digestion and assimilation.

One of the best things I have tried is the salt bath which consists in having the patient stand up in the bath-tub after giving him a warm bath, taking fine salt with no coarse particles in it, rubbing him all over thoroughly with it, then have him lie down in the water, wash off the salt, then give him a cold douche.

The Scotch douche will produce a powerful effect on the nervous system and it is quite beneficial in some cases where it is carried out properly.

I now come to the medicinal treatment which seems to have less effect than any of the lines of treatment. It may bedivided into two divisions; one treating the special symptoms, such as the sore mouth, diarrhea, dermatitis, etc., the other treating the general symptoms.

For the sore mouth and tongue, an application of nitrate of silver, 20 grains to the ounce of water, daily or on alternate days is good. A mouth wash of boro-glycerine (25%) or half strength liquor antisepticus alkalinus, or chlorate of potash with glycerine and rose-water will generally prove satisfactory.

For the salivation, give 1-100 of a grain of atropine every four hours till the dribbling ceases, then stop or it will produce a dryness of the throat.

For the frequent and sometimes persistent diarrhea, bismuth-bethnaphthol and resorcin given with milk of bismuth as vehicle is generally sufficient, but if this fails then give large doses of bismuth subgallate or nitrate. I have used bismuth and opium and the lead and opium pill as intestinal astringents, but it is best not to use opium in any form if it can be avoided.

For the dermatitis, a lotion made of pulv. calamine, 4 drams; pulv. zinc oxide, 3 drams; rose-water, 2 ounces; limewater to make a pint. This may be used while the hands are red and hot. After desquamation begins, an ointment of 5% boric acid may be used.

For the internal or systemic treatment, the following is good: Fowler's solution, 3 drams; saturated solution iodide of potash, 5 drams. Begin with five drop doses three times a day after meals, and increase one drop each day until the physiological effect is obtained, then stop the drug two days beginning with the initial dose as before. Treat the anemia with different preparations of iron; the anorexia with nux vomica, gentian, etc.; the insomnia, constipation and other things should be treated as indicated.

Some surgeons have treated pellagra by the transfusion of the blood serum but at yet remains to be proven whether this will meet with success or not.

I have thought for some time that there was some relation in some way between pellagra and the hookworm and assuming this to be true, I have had several pellagra patients examined and so far have found that all of them are infected with hookworm. Dr. Loek, of Barbourville, who is State Sanitary Inspector, and has done an immense amount of work in the hookworm field, informs me that nearly all pellagra patients have hookworm.

Does it not seem plausible that there must be some relation between the two diseases? Is it not possible that pellagra may cause hookworm, or hookworm cause pellagra, or either? This is a problem that remains to be worked out in the future.

Now, in conclusion, let me say that it behooves every doctor to use his best skill and put forth his best energy to solve this pellagra problem, for it is sure a menace to the people, and much concerning it still remains in thdark.

Pellagra is considered a serious disease, it does not matter how light the infection may be.

SYMPTOMS AND DIAGNOSIS OF PELLAGRA.*

By M. W. Steele, Corbin.

It is not a particularly pleasant sensation to unexpectedly discover a new case of pellagra. It is a condition almost invariably recognized at sight by one who has seen several cases. I refer to well developed cases at the time we usually first see them.

As we look at the poor unfortunate victim, after a casual glance at the characteristic erythema or hyperemia of the skin, our thoughts naturally become centered upon that indescribable mental disorder. There we see anxiety and distress. And as we try to look cheerful, observing the patient more closely, we notice that he is irritable with aversion to activity. A question is replied to long after he would seem to have forgotten it; then with some stoppage, at times, in the voice. Such is our first knowledge in many instances.

Fortunately, however, we see a large per cent. of cases earlier in their development, and it is to be regretted that an early diagnosis can not be made in all cases.

Gastro-intestinal disturbances, such as irregular appetite, pain and distension and nausea, are the first symptoms. This condition may begin as early as January. Following these manifestations the patients seem to lose mental vigor, and we notice that their memory is not quite clear. In many cases they become very irritable and distressed. In some instances they complain of a feeling as of a band around the body, and of a general weakness and burning sensation in the stomach. Profuse diarrhoea most always develops with the advent of spring. A rare case becomes constipated. With the above symptoms comes insomnia, sometimes vertigo, thickening of the tongue with a burning sensation of the mouth. Usually from four to six days after the diarrhoea developes, hyperemia, or the so-called "sunburn" appears on the dorsal surface of the hands. White spots scarcely visiable may occur just previous to the redness, and is a splendid diagnostic point.

The characteristic skin lesions are the least important, except from a diagnostic standpoint.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

The time of the existence of the prodromal symptoms before the appearance of the erythema, may vary from one to six weeks. In many cases the early symptoms present nothing very peculiar, but we should always be suspicious of pellagra, especially if the season be spring. The erythema may appear as early as February, or as late as June. The more common time in Kentucky is May. This year even later. In most cases stomatitis is seen at same time of dermatitis. The general appearance of the erythema is usually a diffuse redness without swelling; occasionally some swelling is noticed. In these conditions patients usually complain of intense pain. Next to the hands, the face is most apt to be affected, then the neck and sometimes the feet and legs. Upon close examination the skin of the entire body will sometimes be found to be slightly dry. The hyperemia always begins on the back of the hands and extends to the finger nails, and up the arms sometimes to the elbows, and is always symmetrical. The same is true of the other extremities, but not so perfectly as on the hands. The nails are never involved. Involvement of the palmar surfaces very rarely occur. The dermatitis varies greatly in extent and severity. In the milder cases desquamation may soon take place, leaving a soft skin, not sensitive. In the more severe cases, following the subsiding of the acute hyperemia of the hands, the diseased skin becomes wrinkled, sometimes thickened and fissured; often to the extent of causing severe pain and complete loss of the use of the hands for several days. Especially is this condition common in cases not treated early with some good lotion. In some cases blebs form and may easily become infected, and cause severe suffering. This condition is followed by the formation of crusts. Hyperemia occurs only in those exposed to the sunlight. In the case of those who remain indoors the skin at first becomes dry and scaly and seems to get whiter than the normal skin. The more hyperemia the more perfect is the symmetry.

The dermatitis usually covers the entire surface of the arm nearly to the elbow; but in one case I have recently seen, only a stripe about 1½ inches wide was involved, but these stripes were perfectly symmetrical. The skin after healing is usually soft and velvety, but in some instances is harsh and coarse. One very interesting condition on the forehead of a woman 42 years of age was a similar feeling to the touch as one would experience in passing the fingers over sand paper. It must be borne in mind as a leading diagnostic point that no two things could be more alike than the first appearance of the hyperemia on the back of the hands and a sun burn, bearing in mind that the outlines are always symmetrical in position and direction and of equal severity. This in itself is sufficient to warrant a positive diagnosis. The point of greatest intensity is midway between the knuckles and the wrist. In most instances the patient will complain of a burning, stinging sensation of the feet, whether there are any noticeable lesions or not. In my experience I have rarely seen such lesions. One patient complained of a feeling as of fine pins pricking her entire body. Stomatitis varies in severity. It is only in a very rare case that sore mouth develops late. In addition to the red, swollen tongue a pigmentation is usually noticed on the sides of the tongue running to the tip. The same condition may be seen on the inner sides of the cheeks. There is usually a reddening of the gums and the floor of the mouth. This condition always accompanied by an increased flow of saliva which becomes glairy and so profuse that it becomes probably the most annoying and difficult symptom to control.

Diarrhoea is rarely absent as one of the first symptoms. It is not, as a rule, severe, but persistent with frequent passages of blood and mucus. In the acute stage the mental and nervous disorder is usually not so severe. Patient complains of cold extremities and numbness. One peculiar result of the mental disorder in two or three cases I have seen is that in an apparent semi-stupor, they will make no effort to expectorate, but rather let the profuse fluid run from the mouth, seeming to manifest no interest in anything. In one case of this temper, patient resisted bitterly any effort on the part of the nurse to wipe the saliva from the mouth. As mentioned in the outset there is a general slowness of ideas. There is in some cases a disturbed judgment in general, and they become very averse to their welfare, and are depressed and melancholy. I have never seen a patient disposed to suicide. Loss of memory is very common. The sense of taste is generally normal. Except in two cases of the so-called typhoidal type I have seen but little rise in temperature. I believe that it is generally agreed that the extent of erythema is no index to the severity of the malady. Some of the mild cases of skin lesions have been among the first to succumb to the disease.

Mistakes in diagnosis may be made because of the order of the appearance of symptoms being confused. Bearing in mind these common symptoms, allowing for reasonable variations in the symptomatology of such a strange disease, we may be reasonably sure of a correct diagnosis.

An interesting case in my experience was a seventeen year old married woman. I first saw her July 22nd. I was called hurriedly to her bed-side where I found her in the second stage of premature labor at seven months. At the first sight of her I noticed the skin lesions on the hands. She gave a history of delicate health for two or three months. Had had profuse diarrhoea for two or three weeks. Recently she had gone blackberry picking, and she thought the eating of the berries had given much relief. The infant had a highly red colored skin of a glossy appearance over the entire body and saliva ran freely from the mouth continuously for the entire 24 hours which it lived. The mother developed a high fever (probably septic) on the fifth day, accompanied with a diarrhoea of a dysenteric character, and died on the ninth day after labor. The skin over the entire body was very dry when I first saw her.

A very interesting case now under my care is a married lady age 43. She presents all the usual symptoms except diarrhoea, instead is constipated. First and second microscopical examinations of feces were negative. The third examination showed the presence of trichiuris trichuria. She has very marked skin lesions, but is improving rapidly since cool weather.

I have had all my pellagrins examined this summer for hookworm with a positive result in practically every case. Previous examinations, however, had been negative in many cases. I believe that the presence of the parasites in most of these cases is largely a coincidence, but one most interesting fact is that practically all who have taken the hookworm treatment have improved rapidly of the pellagrous symptoms. Recently I found that a very old lady pellagrin had hookworm. She had a very irritable stomach, but she took the thymol without any serious effects. Improvement is being very pronounced. A good question for our thought.

PELLAGRA AS RELATED TO INSANINSANITY.*

By W. E. Gardner, Lakeland.

The subject of pellagra will have been so thoroughly covered in the papers that preceed mine, that I shall not attempt to discuss the etiology, pathology and symptomology of the disease, except as referred to the mental picture, which latter, as a rule, appears only after the disease is well advanced.

Pellagra must, without doubt, be considered as a constitutional disease, and does not belong, entirely, to the dermatologist, the gastro-intestinal specialist, or to the neurologist, but to all alike, and, perhaps most of all to the general practitioner, just as much as does the case of typhoid fever, which, likewise, has its skin symptoms, its gastro-intestinal symptoms and its delirium.

If we attempt to study the disease by paying attention to only one set of symptoms, we shall, indeed, become specialists, but not be able to form a comprehensive idea of a disease which affects the entire somatic structure as much as any other disease known to the profession.

My subject, however, is "Pellagra as Related to Insanity," and I shall, with only a brief reference to the changes found in the brain and spinal cord, deal almost entirely with mental symptoms; and try, if possible to draw a conclusion as to the type of insanity most commonly met with in this disease.

THE BRAIN AND CORD.

In the few necropsies which we have held, about the same conditions were discovered which are spoken of by writers upon this disease. The pia mater is thickened, as a rule, with occasional thickening of the dura. The brain proper and its convolutions, especially, the cortical areas, show atrophy and degeneration. The fore part of the brain seems to be most involved. There may be oedema of the brain, with an excess of fluid in the ventricles. It is, on the other hand, sometimes, anaemic and contracted. The cerebellum is, also, involved, and the changes, here, correspond in a general way, to the changes in the cerebrum.

Miscroscopical changes which have been noted by others show increased pigmentation and degeneration of the capillaries. The perivascular lymph spaces are, usually, dilated. The cortical nerve cells show degeneration with swelling. The nuclei and nucleoli are swollen and pushed to one side. The granules disintergrate, in advanced cases, and the dendrites swell and break. There may be, finally, atrophy of the brain cells and a disintegration and breaking up of the cell body.

The gross changes in the cord do not show much, except, in some cases, evidences of an inflammation of the meninges, with a superficial edoema and softening.

Microscopical examinations have shown that there is disintegration in the direct pyramidal tract, and that the posterior columns, including the tracts of Goll and Burdach, are, almost constantly, involved, the latter showing profuse proliferation, and a pale appearance as compared with the rest of the cord.

There is, usually, degeneration of the posterior roots, with an increase in the connective tissue and thickening of the arterial walls. The gray matter of the cord is, also, involved, and the changes that take place here, both as to the cells and neuroglia, are very similar to those occurring in the brain. There is increased pigmentation of the cells in both the anterior and posterior horns, especially in the column of Clarke in the posterior horn. In the anterior horn, the cell body has been found to be swollen, the nucleus displaced to one side, with dendrites broken and gone.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1913.

So much for the pathological changes in the brain and cord, which account, in a large measure, for the disturbance of reflexes, as well as the mental symptoms which follow.

Does pellagra, always, mean insanity? Not necessarily so. It is evident, first; that one may have pellagra and not be insane; second, that one may be insane from causes other than pellagra and, later, develop the disease; and, finally, that one may be insane with pellagra as the direct cause. It is with the latter class of cases that this paper will be chiefly concerned.

Physicians in hospitals for the insane do not, as a rule, see the case of pellagra until the mental symptoms are well developed, and it is with the mental condition that they are chiefly concerned; while the physician in private practice sees the patient from the standpoint of the body, first, and the mental condition, afterward. It is interesting and instructive, therefore, that we should meet here, in this symposium, and have a fair exchange of ideas in order to the better arrive at a complete understanding of so important a disease.

No particular form of insanity stands out, pre-eminently, in this disease, especially to one who sees the insanity existing before the pellagra appears, causing the psychosis to be modified and complicated, somewhat, by the mental symptoms, already present. For example, if we have a case of pellagra in one who is, already suffering from dementia praecox, we will have the "dementia praecox type;" if we have it in one already suffering from manic-depressive insanity, we will have the "manic-depressive type;" the "general paralysis type;" the "involutional melancholia type;" the "senile dementia type," and so on; but what kind of psychosis does pellagra tend to produce in one who has never had insanity, and no predisposition to one form or another?

There will follow, below, a study of twenty cases which have occured in the Central State Hospital, at Lakeland, during the past two years, only a few of which had pellagra, when admitted to the institution, so far as we have been able to determine. It will appear that, even with a psychosis which had already existed in a majority of these cases, a few cardinal symptoms stand out, in common, which indicate that the form of insanity resulting from the onset of pellagra, *per se*, is an "infective-exhaustive psychosis," or one of the sub-divisions of the old classification, called "confusional insanity."

It will be noted that, in the greater number of cases, either early or late, there has been a diminished muscular strength, deep reflexes exaggerated, pupils reacting sluggishly to light, loss of control of the sphincters, slurring of speech, with Babinski's sign and ankle clonus, either present or absent.

The mental symptoms are, usually, delirium, confusion, restlessness, agitation, incoherence apprehension hallucinations, both visual and auditory; disorientation for time, place and person; memory is poor; retention is impaired, and grasp on general information is defective; calculation is imperfect; attention cannot be held; judgment is much impaired, and insight is lost.

The form of insanity that predominated in the cases already in the institution, when pellagra developed, was that of "dementia praecox," and with the symptoms enumerated above, those of this psychosis intermingled, in some cases, such as apathy, inattention impulsive movements, mannerisms, hallucinations etc. Memory for remote events general information and insight fairly good; judgment impaired.

The "manic-depressive" types, with the depressive forms predominating, seemed to come next in order, in our cases, but with not as much tendency to suicide as seems to occur in cases outside of institutions, and as is reported by the authors on pellagra.

Melancholia of involution, or the "anxiety psychosis," came in for a few cases, with some distressing symptoms of fear and impending danger.

We have had only one case occurring in that of "general paralysis," which was of short duration, due to the advanced stage of the latter disease.

Two or three cases might have been classified as belonging to the "senile dementia" type, but they were included under that of "involutional melancholia."

The summary and classification of the twenty cases is as follows:

FORM OF INSANITY.	
Infective-exhaustive type	8
Dementia praecox type	5
Manaic-depressive type	3
Melancholia of involution type	3
General paralysis	1
Total	20

MENTAL SYMPTOMS.	
Depression	12
Retardation	10
Apprehensiveness	14
Exaltation	3
Incoherence	10
Restlessness	14

Violence	7
Confusion	15
Apathy	10
Resistiveness	9
Destructiveness	6
Untidiness	11

DISORIENTATION.

For place	5
For time	10
For person	3
For place, time and person	3

MEMORY IMPAIRED.

For recent events	12
For remote events	6
For recent and remote events	16

RETENTION.

Impaired	17
Much impaired	9

GRASP ON GENERAL INFORMATION.

Impaired	12
Much impaired	8

CALCULATION.

Impaired	16
Lost	6

ATTENTION.

Impaired	11
Much impaired	7

JUDGMENT.

Impaired	16
Much impaired	12

HALLUCINATIONS.

Visual	1
Auditory	3
Mixed	1

RESIDENCE IN HOSPITAL.

Having pellagra, when admitted	5
Developing pellagra, under 3 months	3
Developing pellagra, under 6 months	2
Developing pellagra, under 12 months	2
Developing pellagra, under 2 years	3
Developing pellagra, under 3 years	1
Developing pellagra, under 5 years	1
Developing pellagra, under 10 years	1
Developing pellagra, after10 years	2

The last table indicates that the greatest number of our cases have developed within the institution, but, usually, within the first two years, which leads me to believe that some of these latter cases may have had the disease in a latent form, when admitted, and did not manifest symptoms, other than mental, until two or three years had elapsed.

Is it not possible, therefore, that, in some cases, the appearance of the dermatitis and intestinal symptoms only indicate the approach of the end of a disease which may have been of one or two years' standing, when we recall the muscular weakness, loss of flesh, gastric discomfort, one or two attacks of stomatitis, and a mental hebitude or confusion, all of which may have existed for months before more pronounced symptoms appeared?

TREATMENT.

The treatment of our cases has been, largely, symptomatic and supportive. Arsenic, in one form or another, has been given to most cases, and intestinal antiseptics have been employed, when indicated, but, as a rule, with poor results. Liquid or soft diet has been used, after intestinal symptoms had developed, and patients have, usually, been kept in bed. Mild antiseptic mouth washes have been used, freely, but with rather discouraging results.

The mental conditions of the patients have been treated according to their respective indications, and as we treat the ordinary cases of insanity. Institutional care is, without doubt, the best method of caring for such cases, after the psychosis has developed, and affords greater protection to the patient and his immediate family.

We have made no attempt to isolate our cases, except for convenience of treatment, not believing that the disease is either infectious or contagious, in the ordinary sense of these terms, and when we speak of the form of insanity as being that of an "infective-exhaustive" psychosis, it is in the sense of an auto-infection, rather than that of a bacterial infection, although it may, yet, develop that this disease is due to the action of some protozoon, or bacillus, which has, thus far, not been isolated.

REPORT OF CASES.

The following cases were selected, at random, from the list of those now at the Central State Hospital, and which I had hoped to exhibit before this society; but their conditions is such that it would not, now, be practical to bring them here, and I shall have to ask those of you who are specially interested, to visit them at the institution.

B. H., white, male, age 49. Admitted March 18, 1910, occupation carpenter. One brother had been insane. Date of first attack, four months previous to admission. History of alcoholic excesses. No convulsions or well defined delusions of any sort. Natural temper, kind, affectionate toward relatives, but had threatened suicide. Physical condition was good.

Patient was more or less depressed, when admitted, with some degree of restlessness, and did not sleep well at night. Did not have good care of himself, and seemed confused. Memory, orientation and judgment were all impaired. Was given warm baths, purgatives, and nutritive diet, and after a few months, began to improve, and took more interest in his family and environment. Took part in the games on the ward, and would, occasionally, read the daily papers. His mental condition did not ever become normal, however, and he remained in about this same state, until the beginning of this summer, when it was noticed that he was losing flesh, although the appetite was, yet, fairly good; also, that he was becoming more restless. Did not sleep well at night, again, being inclined to lie awake and talk in an incoherent way.

About July 1st, he began to have an occasional attack of diarrhoea, but no stomatitis or redness of the tongue was noted at this time. Complained some of indigestion.

About August 1st, he had developed a symmetrical dermatitis of the backs of both hands, of the dry, scaly variety, which extended just above his wrists, with bracelets appearing on the anterior surfaces. Tongue was red about the edges, but mild alkaline mouth wash was prescribed at once, and patient did not have stomatitis. Attacks of diarrhoea became more frequent. Mental condition of patient became more confused, and there was marked retardation, incoherence, apathy, and restlessness. Orientation for time, place and person, all impaired. Memory was poor, retention was not good, and insight was almost lost.

September 1st. Dermatitis has begun to heal and desquamate, oxide of zinc ointment having been used, locally, and Fowler's solution, internally. Tongue still remains red, and diarrhoea was becoming more offensive.

Patient was still losing flesh. Mental condition remained about the same.

October 1st. Dermatitis seems to have almost entirely healed; tongue still red on the edge. Patient still losing weight, but is, yet, able to be up and about. Still has an occasional attack of diarhoea. Mental condition more confused, and features are now becoming drawn, and there is, at times, the characteristic expression of anxiety.

LABORATORY EXAMINATION.

Sputum Examination. Thin, watery, and large in amount. Carbolic fuchsin and methalyne blue staining. Shows a large amount of large squamous epithelium, a large amount of clustered bacteria, cocci and bacilli, (the cocci being mostly streptococci, and the bacilli are of various sizes.) There were, also present spirochetae of the mouth.

Feces. Large in amount, neutral in reaction. Shows no worms or eggs by microscope and sieve, but exhibits large amount of partially digested corn grains, beans, etc.

Blood Smear. For differential count:

Large lymphocytes	15%
Small lymphocytes	21%
Esinophile	2%
Polymorphoneuclear leucocytes	62%
Myelocytes	None
Basophyles	None

R. E., white, female, age 23; admitted June 21, 1912, occupation, housewife. Mother had been insane. Habits good. Manifested symptoms of insanity one month previous to admission. Had been very restless and talkative. Diagnosis of pellagra had been made previous to admission, patient having symmetrical dermititis of the moist variety on the backs of both hands when she came into the State Hospital. Tongue was very red, with buccal cavity showing marked signs of inflammation. No diarrhoea, at this time. Mouth soon became very sore, and was difficult to treat on account of the badly disturbed condition of the patient. Dermatitis became more acute, and there was ulceration on the backs of the fingers, and about the knuckles. Patient did not take nourishment well, and was rapidly losing flesh. Diarrhoea of the most offensive character, soon set up. Patient was kept in bed as much as possible. There was exaggeration of the knee jerk, and swaying of body when asked to stand alone. Robinski's sign absent. Pupils reacted sluggishly to light, and there was slurring of speech, with loss of muscular strength. Patient became very boisterous, at times, and there was a flight of ideas, indicating manic-depressive insanity. There was, also, great restlessness, incoherence, agitation, confusion and untidiness. Orientation for time and place, impaired. Memory fairly good. Retention, poor. Attention, impaired. Insight, poor. Judgment much impaired.

August 1st. Dermatitis very much improved, mouth still sore, but healing. Diarrhoea still present. Appetite fairly good. Mental condition still very much agitated, and patient still kept in bed. Some excoriation and scaling had taken place, about the elbows, and over the sacrum, due to pressure.

September 1st. Skin on backs of hands has peeled off and left smooth brownish discoloration extending half way to the elbows. Still some signs about the elbows. Mouth has about healed. Appetite fairly good, and patient is holding her own; able to be up and about, but still very noisy and destructive to her clothing, at times.

October 1st. All skin symptoms have about disappeared, except brownish discoloration. Patient still up and about, but remains noisy, destructive and confused. Mouth has entirely healed. Diarrhoea has about subsided. Hookworm was suspected in this case, and first examination revealed only one or two eggs. Recent examination demonstrated presence of hookworms beyond any doubt, for which the patient is now being treated.

LABORATORY EXAMINATION.

Sputum Examination. Small in amount, mucoid in character. Staining as above, shows a small amount of squamous epithelium; large amount of cocci, principally staphylococci and streptococci; also, micrococcus tetragenus, and a considerable number of spirochaetae of the mouth variety.

Feces. Large amount of thick, soupy-like stool. Examination for worms and their eggs my microscope and seive, shows one hookworm egg, and muscle fiber in undigested state. Reaction alkaline.

Blood Smear. For differential count:

Large lymphocytes	8%
Small lymphocytes	28%
Polymorphonuclear leucocytes	61%
Eosinophile	3%
Myelocytes	None
Basophyles	None

C. M. B., white, male, age 39. Admitted July 27, 1912. Occupation, farmer. No relatives had been insane. Habits good. First manifested symptoms of insanity about eighteen months previous to admission. Patient had been brought to us for consultation, during the late summer of 1911 and diagnosis of pellagra was made. At this time there was mental confusion and apathy. Also some delusions of persecution. Reflexes were exaggerated, and there was loss of flesh and muscular weakness. Patient had been in a private sanatorium for a few months previous which time, he had had a symmetrical dermatitis on the backs of both hands, which had about healed when brought to us. There was still some discoloration of the skin. Patient had never had any stomatitis or diarrhoea. Gave a history of depression with some tendency to suicide. Also, very restless and almost violent, at times. When admitted to the institution his condition was that of apathy, indifference and inattention. There was more or less muscular weakness and slurring of to admission to the State Hospital, during speech. Pupils reacted sluggishly to light. Knee-jerk was about normal. Babinski's sign and ankle clonus, absent. Appetite, poor. No marked loss of flesh. No redness of tongue or diarrhoea.

September 1st. Mental condition of patient has improved, somewhat. There also seems to be an improvement in his physical condition, but he is yet below normal.

October 1st. Physical condition seems to remain about the same as a month ago, but there is still some mental hebitude, with more or less indifference, retardation, disorientation and confusion. Memory seems to be fairly good, but insight and judgment are impaired.

LABORATORY EXAMINATION.

Sputum Examination. Mucoid in character. Staining the same as above, shows a very large number of large sized streptococci, exhibiting many very long chains, some old filaments, cocci, large and small, massed; bacilli, various sizes, massed; no spirochaetae observed and a moderate amount of squamous epithelium.

Feces. Large, stringy, alkaline stool. Examination by microscope and sieve, negative, except for very scanty muscle fibre, partly digested, and a large amount of vegetable fibre.

Blood Smear. For differential count:

Large lymphocytes	10%
Small lymphocytes	29%
Polymorphonuclear leucocytes	60%
Eosinophile	1%
Myelocytes	None
Basophyles	None

All three of these cases are still surviving, the last of which seems to be approaching recovery, and were selected in the hope that they might be brought before this society, but, as stated above, it was thought best to not to do this on account of the inconvenience to the patient as well as the danger of accident. The majority of our cases have declined, either gradually, or rapidly, and our mortality rate has been very high.

PELLAGRA AS A PUBLIC HEALTH PROBLEM.*

By O. P. Nuckols, Pineville.

When notified by your committee, that I had been assigned a part in the symposium on pellagra, I felt that almost the last word had been said on this important subject, until we stood upon a more firm foundation, as regards its etiology. But when we reflect upon the rapidity with which it has spread over our country, and the sad picture it presents, and the wrecks it leaves in its wake, and its attendant high mortality, we feel that the time has come to appeal to all who are interested in the cause of humanity, in helping along this great public health problem.

About one year ago, I read before the Jefferson County Medical Society, a paper on the subject of pellagra, in which I reported a series of cases, that had come under my observation up to that time, and before I take up the main subject of this paper, I desire to follow up this primary report, with some

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

further observations on pellagra, as I have met with it in my private practice, and offer some deductions as to its probable etiology.

In order that we may properly judge of the future conduct of any new disease, it is well for us to study its history and past habits, and I wish briefly to sum up some of its main characteristics.

Its topographic and climatic history are of particular interest, as well as its geographic distribution. Pellagra was not found in the low level country of Spain, but either side of the Cantabrian range of mountains. It will be noted, also, that subsequent to this, the disease spread from two other points in Spain, but in both instances originating among the mountain ranges. Pellagra next is found in northern Italy, also a mountainous and damp region, and it soon became very prevalent in France among the foothills of the Pyrenees, and the region of southwestern France, where the country was hilly and traversed by many small streams, and known at that time as a very unhealthy section. We next find pellagra in Austro-Hungary, and it will also be noted, that it prevailed to a great extent in

the mountainous parts of the country, and when it has left the mountainous sections, it has shown a great tendency to cling to the damp localities, and near small water courses. So decided was its preference for the mountains of the Alps, that it was known as the Alpine scurvey, and in Italy as *mal del monte*, or the malady of the mountains.

Since pellagra has invaded our own country, its tendency to develop along the coast states, and the mountainous sections, and especially in damp localities, and near small water courses has been noticed. It may be further noted that here are not only damp and mountainous sections, but also warm climates. So it seems clear to me, that warmth and moisture, have all along its history, played an important part in its etiology.

The habits of this extremely protean disease, have also, attracted wide attention from most writers on the subject, and no doubt its many vague and undefinable symptoms have been the cause of many cases being entirely overlooked, and treated as other diseases.

It has seemed to disregard all laws of travel, and failed to follow the usual lines of commerce as most other epidemic diseases have done. It has shown a marked tendency to hide away in the more rural, and unsanitary sections, becoming endemic in circumscribed localities. It has never been known to prevail as an original endemic in the larger cities.

In its relation to families, it seems to select one out of a family for its victim, more frequently the mother, next in frequency the father, and less often the children, but more than one case in any family, is the exception and not the rule. Alessendrini found in 269 families only five that had as many as two cases in a family, and one family of 21 members, only had one case in the family. This, to my mind, is unexplainable, except upon the ground of either some predisposing factor of idiosyncrasy, on the one hand, or natural immunity on the other. This is one of the most difficult points in connection with pellagra to explain, but it seems to rest on some peculiar susceptibility of the person, which might be classed as an idiosyncrasy. With such a capracious disease as this, disregarding all laws of social contract, and striking where, and as it will, it becomes a veritable "Black Hand" disease, attacking its victim without the slightest warning or premonition.

For over two centuries this dread disease has baffled the skill of the medical profession wherever it has prevailed, and many theories have been advanced as to its cause, and to-day pellagra stalks abroad in the land, with its cause still shrouded in mystery.

So far as I have been able to observe, there seems to be no justifiable grounds for the

Italian theory of spoiled maize as the cause. The Zeistic theory does not fit the behavior of the disease, from an epidemic, or endemic standpoint, and what may be said of all the dietetic theories. It is not reasonable to believe that any dietetic cause, can account for an endemic of pellagra in a given locality one year, and when all the conditions remain the same, for it to subside the next.

The theory of Sambon that pellagra is caused by the *simulium reptans*, has many adherents, and seems to be gaining ground, yet it is difficult to harmonize with the behavior of pellagra, or the normal habitat of this particular protozoa. My friend and coworker, Dr. J. Harry Hendren, has been doing a great deal of work along this line, and along the line of a house or place infection, and will present his deductions therefrom.

That pellagra is a disease produced by a poison acting primarily on the central and sympathetic nervous system seems clear to me. That it presents a symptom-complex produced by the disturbance of these central nerve centers must be admitted. The increased salivation, visual disturbances, vertigo, disturbance of the co-ordination of movement, the symetrical dermatoses, all indicate the early involvement of the central nervous mechanism.

It seems from the literature on the subject, that many investigators put this as a secondary, or late symptom of pellagra, but my experience with the disease leads me to believe that the stomatitis and erythema, are always preceded by certain nervous phenomena, and that the very troublesome gastric and intestinal flatulency, that often precede the more marked symptoms, are due to an atonic state of the splanchnic nerve supply, or to put it tersely, pellagra must be looked upon from its incipiency, as a tropo-neurosis.

In collecting the general history of pellagra and also in the history of my own cases, I have been struck with the marked similarity of distribution and the analogy in the climatic conditions, found to prevail in the spread of hookworm disease and pellagra. It seems that warmth and moisture are necessary factors in the production of both diseases, and with few exceptions where one is found the other is also found. In no case, so far, have I found pellagra where hookworm disease did not also exist, and another peculiarity I have noticed in several instances, is that the pellagrin would not show the presence of hookworm while the other members of the same family did. I have further noticed that the member of the family falling prey to pellagra, had in several instances, undergone some nerve strain, and that nerve force was below normal, or that the nervous system was in a negative state.

I shall now run over my personal experience with pellagra as briefly as possible, and show the association of the two diseases as I have seen them, and trace the line of development of the endemic in my locality. I shall not go into any details of cases previously reported.

CASE I.—PREVIOUSLY REPORTED.

During the early part of the winter of 1910, a family moved into the mining camp at

Straight Creek, Kentucky, from Knox county. The wife gave a history of a peculiar eruption she had had the summer previous, attended by great nervousness, vertigo, etc., and in the early spring she presented the typical symptoms of pellagra. This was the first case diagnosed as such in Bell county, so far as I am informed. In the latter part of the summer her neighbor, Mrs. H., (case two previously reported) developed the disease. Another neighbor with whom she visited, also developed the disease.

In the winter of 1911, Mrs. H., (case two) moved out of the house that she had been occupying, and where she contracted pellagra, and the family moving into the same house developed two cases (cases three and four previously reported) in the early part of the spring of 1911. This makes a total of five cases in this immediate section, four reported by me, and the other one moving away soon after development. All these families, and this particular section, have since been found to be heavily infected with hookworm.

In another focus, I found Mrs. S., (case five previously reported) in the spring of 1911, suffering from an extremely well-marked pellagra. I also found upon inquiry, that the house adjoining had been occupied the year previous, by a woman who had pellagra. This woman moved into Dr. Hendren's locality, and it seems from the subsequent history, became a source of infection there. Upon investigation, I found that the family of Mrs. S., were all infected with hookworm, and also, the family adjoining.

Early in the spring of 1912, Mr. P., developed a very grave form of pellagra, running a rapid course, the patient dying in the early part of August. His history showed that he had some of the mild symptoms of pellagra in the fall of 1911, and that the locality in which he was living at that time, was infected with hookworm, and that his own family were, but upon one examination he did not show any infection. Another patient, a Mrs. B., living in the same locality, developed pellagra in the early spring of 1912. This was also a very severe form, the patient rapidly emaciated, and all the symptoms were very aggravated, ending in death in the early part of August.

In June, 1912, I was called to see a patient about five miles above Straight Creek, who lived at the head of a small stream in a very isolated place. She gave a history of hav-

ing been in that locality for the past three years. Her condition was a pitiable one, practically bedfast, suffering from a very severe form of pellagra, attended by extreme stomatitis, and diarrhoea. This surely was a break in the chain, but examination showed her daughter, the other member of the family heavily infected with hookworm, but the pellagrin free from infection, upon one examination.

Shortly after this I was called to see a deaf mute, about 17 years of age, who lived in the same locality, but at the head of another branch, and also remote from other families or buildings. This case is of peculiar interest, due to the fact that this boy was a deaf mute, and scarcely ever left the premises. His father gave a history of the boy previously suffering from an attack of lagrippe, in which his nervous system was very much depressed, and stated that his mind began to fail after having had lagrippe. He presented the typical symptoms of pellagra, and upon examination, the family were all found to be infected with hookworm, but the patient upon one examination, did not show infection. Upon inquiry from several other physicians who have met with pellagra, I have found that they have met with similar cases in their practice. It is very reasonable to believe that these cases of pellagra, during the process of an active diarrhoea, will not show infection, unless a larger amount of the feces were examined, due to the bowel being constantly flushed out, and the much larger dilution with the serious discharge. These are a few selected cases that I have met with which present the outline of the general picture.

Taking all these facts together as I have found them, I am led to believe that pellagra may be one of the manifestations of hookworm infection. It is in all probability a by-product, or an exceptional deviation from the usual, or we may say normal course. When the larvae come in contact with the skin, it is their usual, or normal course to find their way to the intestinal tract, and find lodgment in the duodenum their natural habitat. So far we have no positive evidence that they do not in some instances deviate from this course, and Dock and Bass, in their book on hookworm disease, state that "doubtless many are kept back for a time or permanently by the lymph glands." The question that we may ask, what becomes of these larvae? Do they die and enter the secret laboratory of the system, and become converted into a poison, that spends its force on the central nervous system, producing pellagra? Or are they caught up by the lymph glands, and transferred to remote parts of the body, to take up an unnatural abode and disturb the normal metabolism, in such a way, as to give rise to that unknown quantity, that results in pellagra.

These are questions that may seem speculative, yet it seems to me that they should invite the careful, and painstaking attention of the bacteriologist, and pathologist as well. I believe that under certain conditions of system, hookworm infection may cause pellagra. That the larvae in transit to their normal habitat, the small intestines, may be deviated from their course, and set up an abode in the delicate structures of the nervous system, or elsewhere, and act as the exciting cause of pellagra, or that they die in transit and become a poison that acts on the central nervous system, and so disturbs normal metabolism as to produce pellagra.

In support of this theory I will call attention to the similar geographic distribution, and the similar climatic conditions. The absence of each in cities where the excreta is carried away by the sewer, and there is no contact with sail infection. The cessation of the active symptoms and spread of the disease in winter, due to the fact that the larvae do not germinate at that season, and with the returning warmth and moisture of spring, reinfection takes place. It may further be noted that pellagra in this country was discovered by hookworm investigation. The same is true of Sandwith's work in Egypt. Strambio in his early work, no doubt would have found hookworm in addition to the round worm, had his means of investigation been the same as to-day. Another fact that is of interest is that Stiles has stated that the negro is a great hookworm carrier, but is to a great extent immune from the effects of the disease. The same relative immunity is present in pellagra, and I wish to state that in my own practice, under the same conditions and environments, I have never met with a case of pellagra in the negro. This theory, to my mind more nearly fits the behavior of pellagra than any that have been advanced, yet in advancing this theory, I do not overlook the fact that pellagra has been longer known than hookworm disease, but this is a natural sequence. Pellagra presents external and visible signs that force themselves on the attention, while hookworm disease, in a very large percentage of cases, does not present symptoms, and until recent years, it was classed as an anemia and thought to be due to many and varied causes. There can be no reasonable doubt that it has existed long before pellagra was known.

PATHOLOGY AND SYMPTOMATOLOGY.

As to the pathology and symptomatology of pellagra, I shall say but little, and will only emphasize the fact that when the pathology is understood the symptoms are easily accounted for, and can all be referred to the central and sympathetic nervous system. Gray states that the spinal nerve roots, in the cervical, and also the lumbar region, are relatively large, and that the foramina through which they emerge are smaller than in the dorsal region. Treske found that in pellagra these nerve roots were surrounded by infiltration, and that there was more or less compression, and that when confined to the cervical nerves, there was only dermatoses on the hands and arms, and when the lumbar nerves were compressed, the feet and legs were involved. So it is easy to explain all the skin lesions by tracing them back to their spinal nerve supply. The same is true of the atrophic, and other visceral changes, that take place as a natural result, of the pathologic changes that take place in the sympathetic and splanohnic nerve supply. When the brain becomes involved, there may be many and varied manifestations, sometimes delirium, at others suicidal tendencies, but the most frequent as I have seen it, is a typical senile dementia, with general disturbance of metabolism, attended with general wasting and decline. Mutism, trismus, tonic muscular spasm of extremities, are all symptoms I have noticed.

AS A PUBLIC PROBLEM.

The editor of the *American Journal of*

Medicine in a recent issue said, "Pellagra is one of the most important, if not the most important, public health problem of the times."

The recent outbreak of pellagra in our country, and its rapid spread, proves the correctness of this assertion.

That it has not only become a public health problem, but a humanitarian problem as well, must be admitted. The time has arrived when this new enemy of our people, attended as it is by so much misery and despair, with its many cases of insanity, filling our asylums, and with its high mortality, must be dealt with in the light of reason and good judgment. Other countries have had their scourge of this dread disease, and have been slow to meet it as a public health problem, but when it has ben taken hold of properly, the results have been reasonably satisfactory. And this in the face of what seems to be a mistaken idea of its cause. When we come to consider this pelplexing problem, from the standpoint of public health that ever present question of etiology like "Banquo's Ghost" will not down. The Italian government has wrestled with pellagra for the last two centuries, and it seems with a Sphinx-like steadfastness, for the corn theory. All their public health measures have been directed along the Zeistic line. They have established a number of pellagra hospitals, and many sanitary stations, for the proper preparation and feeding of the poor, together with other sanitary measures, and there has been a gradual decrease of the disease in the last few years. In Spain and France where pellagra was once very prevalent, it is now almost a relic of history.

The Academy of Medicine in France appointed Rousel and his commission, to study pellagra in other countries, and it was largely due to his work that pellagra was stamped out in France.

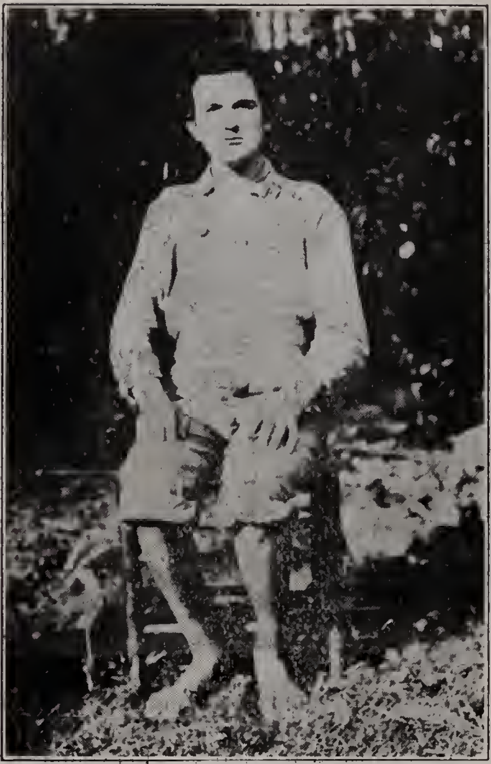
The disease in the United States is of such recent development, that there has not been any well organized effort to combat it, but when public sentiment becomes more thoroughly aroused by its continued spread and high mortality, more active measures, no doubt, will be put in force. And I might say, that while this stage of public lethargy prevails, it is steadily gaining a more firm foothold, and gradually becoming more difficult to eradicate. This is a dangerous period in its history in our country, a period of indecision, and an attitude of inertia. Until we know more about its cause, we must be content to deal with it upon the general principles of sanitary science, but in the application of such knowledge as we have, and the further study of the subject, its cause may be learned.

As I have before stated, it seems to me to be very closely associated with hookworm disease, and I have been led to believe that it is in all probability one of its manifestations, or by-products. However, this may be, there is sufficient evidence to believe, that it is in some way transmissable, and that a pellagra patient in a community, is a possible source of infection, and the history of its subsequent behavior, after one case has entered a community bears out this belief. As an exception to this statement, I will mention the fact that in cities, where sewers are in use, and no soil contamination possible, there may be no transmission. Taking this view of the subject then, the question that confronts the medical profession of Kentucky to-day is: What line of defense can be put forward as a public health measure, that will prevent the spread of pellagra and reduce its mortality? It is a condition and not a theory that must be met. The facts warrant some movement being made, that will forestall this new disease, before it becomes a great national scourge, as it has been in many of the European countries.

The Government, through its Marine Hospital Service, has taken steps to help in the study and prevention of pellagra, and has established a Hospital at Savannah, Georgia, for its study and treatment. There is to be held at an early date, another meeting of the National Pellagra Congress, which may formulate some plan of action of a national scope, looking toward its management. Several Southern States have appointed commissions to study the disease, and our sister state of Tennessee, appointed such commission, which reported the prevalence of pellagra in 67 of the 96 counties in the state. This commission visited 316 cases, and reported back to the State Board of Health. Their report shows that the prognosis is doubtful or bad in over 50 per cent of all cases, and taking this as a basis, it would seem that with the present rate of increase, the death rate will soon become appalling.

Along the same line of dealing with these public health questions, I will mention that the medical society of Pennsylvania, appointed a cancer commission to investigate the prevalence of this dreadful malady within the state, and suggest methods of dealing with it, and their work already has proved the wisdom of such a course.

The name of the Kentucky Medical Association stands as a synonym for all that is progressive in medicine. The Kentucky State Board of Health, headed by Dr. J. N. McCormack, our distinguished national Sanitarian, stands for all that promises for the betterment of health conditions, and the increase of human happiness. The State Board of Control, who have charge of the welfare of our unfortunates who fill our asylums, must and do recognize the startling fact that many of them are only the end results of this new disease, and no doubt will be ready to co-operate in some plan of action that will help to stamp out this new enemy. I would most respectfully urge upon this association, the necessity of some action in behalf of those who are exposed to the dangers of this dreadful malady, as well as those already suffering



from the disease. I believe that this association should take such steps as may be necessary to provide funds for the study and treatment, and prophylactic management of pellagra within the State.

As I have said before the State Board of Health will aid in this cause of humanity. The State Board of Control will be interested in such a work, and will, no doubt, lend their aid. No doubt many benevolent individuals and charitable organizations, would contribute to such a worthy cause, directed by and under the control of this association.

This work can be better accomplished by the appointment of a commission, to collect data, and locate the proper place for at least one pellagra hospital. This should be accessible to the greatest number of cases of pellagra, and should be properly equipped for taking care of all cases within a given area. Other institutions could be established later if found advisable and necessary. This commission should consist of at least one expert bacteriologist and pathologist. The other members should be men of experience in the management of pellagra cases, and interested in the work.

I would suggest that the board of councilors constitute the appointing board, because of the fact that they are familiar with the public health conditions over the State. They are also familiar with the needs and requirements of the work to be done, and the most suitable persons to take charge of the work. As suggested before, it would seem wise to establish at least one hospital, with the necessary equipment and attendance, and make it an experimental station, to work out the problem of pellagra, and if possible its cause and management. I may mention as some of the advantages of such a course, first, the more systematic scientific study of the disease; second, the protection of the general public from exposure to possible infection; and third, the better management of those afflicted, and a consequent reduction of the mortality.

This commission should have power to prosecute all measures of protection of the public, by having the power to isolate and remove to the hospital, all cases of pellagra, within the hospital district, in which a positive diagnosis can be made. All data connected with every case should be carefully collected and preserved, and each case made a special study.

The commission should act in conjunction with the State Board of Health, and the county boards of health, in carrying out all measures of general sanitation in the pellagra district. The treatment carried out at the pellagra hospital should be of the most approved methods, including hydrotherapy and all other adjuncts that will be of advantage in arresting the disease.

This is a brief outline of what to my mind should be done toward the mitigation and control of pellagra in Kentucky. It is a plan that is practicable, that is reasonable, and that is called for by the gravity of the situation.

Until pellagra cases are segregated, and cease to be a source of further spread, it will grow and flourish like the green Bay tree, but if it is dealt with promptly, and scientificly, and humanely, it will soon be a relic of history.

Now, in concluding my paper, I will say, that if in this paper I have advanced any idea that will act as the pebble cast at sea, and start a ripple of public sentiment that will help to lift the cloud of despair that hovers around so many humble homes in Kentucky, I shall ever feel grateful.

PERSONAL OBSERVATIONS OF PELLAGRA IN EASTERN KENTUCKY.*

By J. H. HENDREN, Cary.

I feel deeply the very high honor that has been conferred upon me in being asked to address this splendid assembly; and feel more keenly still my utter inability to present to you something worthy of your esteemed consideration.

Why this committee on programme should have gone far back in the dim recesses of the mountains, to the most remote corner of the State, and dragged therefrom a quiet, obscure, and to you unknown country practitioner of medicine, to address you upon the most vital, the most important, and the most obscure question before the medical world to-day; is to me a mystery: but since in their wisdom they have seen fit to do so, I shall endeavor in feeble way to present to you the salient points of this subject as best I can.

The subject which as been assigned to me is a discussion of that wide-spread malady, pellagra, and while we know but little of its symptoms, less of its cause, and still less of its cure: it is still none the less the most important topic of the present medical generation.

Far be it from my purpose in this article to present to you a rehash of the literature on pellagra, but so much has been written, so much has been said, and so little really known about this important matter that it is impossible for any man to treat this subject without some reference to the work of others.

The history of pellagra in the old world is a matter of centuries: but in the new, at least in the United States, it was unknown prior to 1864. Since that time sporadic cases have been reported in the east and south, by various observers. Since 1908 the reported cases of pellagra in the United States has increased by leaps and bounds, until now, conservative investigators estimate 25,000 cases east of the Rocky Mountains alone.

Writers have written, students have studied, and thinkers thought about this plague, for two centuries, but the cause of pellagra is as much a mystery to-day as when Cassal first mentioned it in 1735. It was he who first originated the idea of some causal relation between corn and pellagra. The medical fraternity of that time, having found a new disease, sought some recently acting cause. Indian corn or Zea maize had been recently introduced into Europe as a staple article of food and for certain reasons attention was drawn to it as a causal factor of the trouble.

All the writers and thinkers upon pellagra may be divided into two great classes or schools. First the "Zeists" or those who believe that Indian corn is in some way responsible for the trouble; and second the "Anti-Zeist" who deny any such relation whatever. Unfortunately neither school has been able to concentrate its forces upon one single line of thought. We have had divisions and sub-divisions until now we have nearly as many causes advocated as we have investigators. It is not the purpose of this article to laud any particular theory to the skies, to ride any special hobby to the exclusion of all the others; but to present all the facts in as clear and as concise manner as possible, and let you be the judge.

First the "sub-nutritious" theory; the idea that corn as a food stuff is wanting in some of the essential elements that go to make a well-balanced ration, and that people who use it to any great extent as an article of diet, undergo a process of slow starvation. But with our modern chemical and physiological laboratories, we find that sound, well dried, mature corn is one of the most available as well as the most nutritious of all the foods offered to the human race. In both fats and carbohydrates it ranks above barley, buckwheat, rice and wheat; while in fuel value per foot pound it leads all the cerials on the list. As our knowledge of corn and its products has increased, the adherents of this theory have decreased until now it has but few if any advocates on either side of the Atlantic.

Second, the "photo-dynamic" theory, brought forward by Raubitschek in 1902, that corn contained some substance which circulating in the blood stream, was decomposed by sunlight into other toxic substance or substances, which acting upon the central nervous system, produced those symptoms we call pellagra. So far this theory has met with little favor.

Third, the "toxico-chemical" theory, that by the action of certain bacteria or molds, corn may undergo certain changes in the process of spoiling with the formation of one or more toxic substances, which when absorbed into the human system produce a chain of symptoms we call pellagra. This is the great spoiled corn theory in a nutshell. "In pellagra we are dealing with an intoxication produced by the poisons in spoiled corn, through the action of certain micro-organisms, in themselves harmless to man." This idea was first advocated by Lombroso, who has been its most ardent exponent, and embraces by far the larger part of the Zeistic school at the present time. This is the view accepted by the Italian government, which has spent thousands of dollars in prophylactic measures, and makes it the official cause of pellagra at least so far as Italy is concerned.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

Lombroso has been the high priest of the ziestic school; his arguments have been weighty and powerful. He was a hard worker and a deep thinker, and a trenchant writer, and since his death the material he left behind has proven a bulwark of the adherents of the maize theory; and all that may be said or written must partake in some nature at least of his argument. Investigating chemically Lombroso found three substances in spoiled corn upon which he laid great stress:

First, a red oil, with bitter taste and musty odor.

Second, "pellegrocein" a toxic alkaloid, resembling strychnine.

Third, a resinous substance.

Experimenting with these substances on man and the lower animals, he has been able to produce symptoms resembling pellagra, but it is the concensus of opinion of more recent investigators that these symptoms are not comparable to pellagra in man.

The "toxic-infective" theory. This is similar to the toxico-chemical theory, except that the poisons are generated within the intestinal tract by the action of certain bacteria, especially the colon bacillus. It is true that the colon bacillus is found in all cases of pellagra, but it is also true that it is found in the alimentary tract of many other individuals of the human race, both sick and well, as well as some of the lower animals. As the yeast fungus breaks up the edible sugar into intoxicating alcohol and water, so may certain other bacteria produce other substances in the alimentary tract, equally as poisonous or more so.

The "parasitic" theory. Bacteriology is always a fertile field, and the bacteriology of pellagra has been one of the most interesting chapters in both the history and etiology of the disease. Many bacteria, each claiming to be specific in their nature, have been reported by various investigators, and each in turn has been discredited by more recent and careful investigation. In 1906 Tizzoni isolated the "strepto-bacillus pellagrae" from the blood and stools of pellagrins and also from spoiled corn, which he claims to be the specific cause of the trouble. Bacterium maydis, aspergillus flavedcens and fumigatus, blue mold and many others, have been brought forward, but the work of their respective investigators lacks confirmation.

In opposition to the zeistic theory, there arose a school of observers, especially in France, who began to report cases of pellagra where it was claimed that no corn had ever been ingested, and who denied "in toto" any causal relation between corn and pellagra. This has been called the "anti-zeistic" school. Unfortunately the anti-zeists are as widely separated in their ideas as to the true etiology of the disease, as the zeists.

Among the first theories of the anti-zeists was that pellagra was not a disease *per se* but a "symptom complex" of some underlying malady such as cancer, syphilis, alcoholism, or malaria. In the light of our present knowledge all investigators agree that pellagra is a disease, and the "symptom complex" theory is without foundation.

An Italian investigator has recently brought forth the argument that pellagra is due to a water-bourne nematode worm, which floats in the blood channel. His observations lack confirmation.

Dr. Mizell, of Georgia, brings forth the theory that pellagra is due to the ingestion of certain "semi-drying edible oils" especially cottonseed oil. Dr. Lavinder dismisses the subject with this well directed fling: "By interweaving certain known chemical reactions with certain unsupported personal opinions and then applying unwarranted interferences as to the metabolism of the human body; it has been made to appear that some of the end oxidation products may cause the disease."

Of all the anti-zeistic theories, that one which has possibly been given the most consideration, is the protozoan theory. This was first promulgated by Dr. Sambon in 1905 and later much amplified by him in 1910. It was he who brought forth the various objections to the corn theory as a cause of pellagra, which may be summarized as follows:

1st. Although the zeist presented this theory nearly 200 years ago, there is no agreement among themselves as to just what substance, or in just what way corn acts to produce the disease.

2nd. A poison will not cause recurring seasonable attacks increasing in severity long after the patient has ceased to take it in his food.

3rd. Corn fails to explain why pellagra occurs among the rural population and not in the cities.

4th. Pellagra occurs in persons who do not eat corn, or eat it but rarely; especially in infants of tender months who have never taken of food but mother's milk. The attacks recur long after the patient ceases a corn diet.

5th. Corn fails to explain why the disease is so prevalent in warm countries and so scattering in colder climes.

6th. The numerous prophylactic measures such as inspecting, drying, and maturing of corn has had no effect in lessening the prevalence and severity of the disease.

7th. Corn fails to explain why the disease is more prevalent among females; more often associated with streams; why generally in the low lands and not on the hills.

8th. Corn fails to explain why certain endemic centers of the disease remain the same for centuries. Sambon, Lavinder, and other observers have been frequently impressed with the statements of practitioners in pellagrinous sections that all their cases came from certain localities.

Sambon further elucidates the idea that pellagra was not contagious, but spread through the agency of some "intermediate host" possibly an insect, as malarial and yellow fevers, sleeping sickness, and others of this type. His theory was based upon the following facts:

1st. Pellagra occurs in tropical and subtropical countries, where infective diseases, especially diseases caused by protozoans and parasitic worms, are prevalent.

2nd. Pellagra is a rural disease.

3rd. Children six months old develop the disease.

4th. Pellagra bears a distinct relation to the seasons in all countries where it exists.

5th. Infectious diseases are epidemic in character, as cholera; or endemic as malaria. Pellagra is both epidemic and endemic, but never pandemic.

6th. Pellagra like all other infectious diseases shows a marked increase in the lymphocytes.

7th. Pellagra, syphilis, malaria, and sleeping sickness are all alike benefitted by arsenic.

8th. Diarrhoea is a characteristic of infectious diseases.

9th. The topographical distribution of pellagra does not coincide either with the distribution of maize culture, or with that of maize consumption.

10th. The zeistic contention that pellagra did not occur in Europe until after the introduction of maize is a mooted question.

Sambon further believes that the disease is transmitted by a minute blood sucking fly of the genus Simulidae, and bases his convictiions upon certain facts he claims to have established, a detailed description of which is not necessary at this time.

In discussing the topic before us, it is not my intention to go into the broad subject as a whole, but to confine myself to one particular locality: to give as nearly a true history of the cases that have occurred in this locality as I possibly can, together with their relation to the surroundings and to each other.

I herewith present to you a map of Bell county. It is in the extreme southeastern corner of the State, and its principal industry is coal mining. It has a population of about 30,000 people, 50% of them live in the mining camps of the various coal companies, 35% in the towns of Middlesboro and Pineville, and the remaining 15% are scattered over the county, engaged in agricultural pursuits on small farms.

It was here that pellagra first made its appearance in Kentucky, and it was from here that the ripple started that sent the whole medical fraternity as well as the laity of the State into one grand ground swell of discussion pro and con.

On July 7th, 1911, the Bell County Medical Society met at Cary, and a clinic of seven cases of pellagra was presented at that meeting. The matter was discussed rather extensively by the local press, and one month later, August 9th, 1911, a "Pellagra Conference" was held in Corbin, at which nearly one hundred physicians were present, and in a triangle of Bell, Whitley and Knox counties over one hundred cases were reported.

The section of the country where this dread malady came so suddenly into prominence is one of great scenic beauty. The tranquil Cumberland winds its devious way to the westward and lofty mountains pierce their towering craigs mid the thunders sullen roar. On every hand the rivulet and the rill bounding from their rocky beds meet the sunbeam in the spray, and scatter their diamonds on the passer-by. A hundred little towns and villages dotted here and there besprinkling the verded slopes like jewels to an emerald isle;—presenting in all a scenic grandeur excelled by no other section of the State, and equalled by but few in the nation.

I desire to call your attention to the rectangle marked off near the center of the map. This is about one and one-half miles wide by three miles long, embracing about three thousand acres. It contains 500 houses and about 4,000 population.

We have here a map of the same rectangle mapped upon a more extensive and accurate scale. Within this rectangle we have been able to get a rather complete history of 80 cases of pellagra from 1910 to the present time. Not only this, but we have been able in most instances to trace the migrations of families and their relations to other families. The drinking water, diet, domestic conditions, and such conditions as might possibly have some bearing upon the disease, have all been studied and noted carefully. It is not my purpose to give a full detailed history of all the cases within this map at the present time: such would be too much repetition and tax the patience of any audience. Not all the cases mentioned are now within the limits of the above named boundary. Some have moved away and others died. In all there has been ten deaths within this boundary, and four others who have lived here, but died elsewhere. However, I desire to submit this record of these cases to the proper board of this society. If after a perusal of the same, they deem it worthy of publication in pamphlet form they have my permission to do so; if not they can consign it to the waste basket.

In studying the disease, some peculiar facts present themselves: First, a majority of the cases are among the natives of this section, not in persons who have migrated into the section, but in persons who have lived here all their lives. Cases No. 18, 19, 20, 22, 23, 25, 28, 31, 33, 35, 37, and 38 are typically local. Second, there were no known cases of pellagra, nor any disease similar to it, prior to 1906.

From the standpoint of etiology, the zeists have much in their favor. Before the advent of the railroad, the natives of this section were a quiet, peaceable farmer folk, untrammeled by the outside world. They raised their corn in the little valleys, cared for it at home and had it ground into meal at the local water mills which were common here. In 1905 the railroad was built, and mining camps began to spring up like mushrooms in a night. In 1906 the population of this valley grew from 200 to more than 2,000 people. Valleys not used by the railroads were used by the mining camps. Farming was no longer profitable and the natives deserted the fields for work in the mines. Instead of using home grown supplies they were dependent upon the company stores for "shipped-in stuff." The old water mill was silent and the mill stones still. What relation corn bears to pellagra I do not know, but the fact stands forth boldly that no cases were known here till after the advent of "brought-on" food stuffs. Ninety-five per cent of the inhabitants are dependent entirely upon the mining industry for a livelihood, and possibly ninety per cent. of all the food products come through the commissaries, or in other words is "brought-on". The daily life of the miner is in no sense to be compared to the poor of Egypt and Italy. All the families are supplied with good warm houses, boxed and ceiled, and all have good stoves upon which to cook, with plenty of wood and coal to cook with. That the miner as a rule lives well, is shown by the fact that very few accumulate any savings. They prefer to eat and dress it out. Fresh meat and vegetables with milk and butter they have in season, and the table of the mining class is always better spread than the poorer class of the cities. Many have little gardens around their houses, and the mining companies, as a rule, encourage such thrift. Corn products are abundantly sold in the commissaries. Corn meal, hominy, breakfast foods, corn syrup, and such things form a large part of their daily sales.

The majority of the male population are lovers of "corn juice" and many of them imbibe freely, but the female population, as a rule, are free from this vice. Both male and female, old and young, almost without exception are heavy users of tobacco. They dip snuff, smoke or chew. sometimes all three. Both male and female population are remarkably free from drug habits; only two or three "dope fiends" in the entire section. The women as a rule are lazy and shiftless; bad cooks and worse housekeepers. Cooking in old-fashioned Dutch ovens with fire above and beneath, is a lost art in this section. Corn bread is baked in thick pones generally on top of the stove, the middle of the bread often being uncooked. Flour bread, when used, is made with baking powder. Fried meals are generally preferred to the boiled ones: the meal that can be prepared with the least trouble, regardless of expense.

The climate is all that can be desired. We have neither the hot sultry nights of summer nor the driving winds of winter, so common to the bluegrass and the cities. There are but few nights through the summer months that blankets do not feel comfortable, and the high mountains ward off the driving wintry blasts. The average elevation of the homes is 1,000 feet above sea level, while the mountains are from 500 to 800 feet higher.

As a rule, the water supply is obtained from bored wells, 75 to 125 feet deep. This depth insures a pure, clear, cold, sparkling beverage, rich in iron and well charged with carbonic acid gas. Unfortunately all the families do not use this water, but some prefer to use water from surface springs which is not safe.

The sanitary condition of the camps is bad, But few of the closets had vaults until the present year. These have been of the open type, free of access to hogs, chickens and flies alike. Scarcely any of the houses are screened, and the pesky flies find access to all homes alike. Houses for the most part are not underpinned, and hogs, calves, dogs, geese and chickens find a common bed beneath. Fies, fleas, bedbugs, and cock-roaches are the common inhabitants of all homes. Hookworm, round worm, and tape worm abound, and of 500 specimens sent to the State Laboratory for examination 65% show hookworm infection, and 85% show intestinal parasites of some kind.

The protozoan theory of Sambon calls for some intermediate host in whose body the protozoan passes one or more stages of its existence. Studying the subject from this aspect presents some difficult problems. Blook-sucking insects in this locality are not numerous, mosquitoes are not nearly so common as in the central and northern part of the State, and do not attract very much attention. Both Professor Garman, of Lexington, and myself have collected specimens of anopheles punctipennis (the malarial mosquito), and stegomya faciata (the yellow fever mosquito). Since becoming interested in this subject it has been my custom to set a lighted lamp on the front porch of my residence, collect such insects as come about it, and send them to Prof. Garman for identification. The lavae of the simulidae have been found in considerable quantities in the streams in various parts of this locality. These localities I have marked with an X on the map. Of course the presence of the larvae necessarily implies the presence of the adult, but neither Prof. Garman nor myself have ever been able to catch or trap this elusive insect. Repeated attempts to hatch them in the Station at Lexington proved unavailing, and a rather elaborate aquarium fixed up at my home likewise proved a failure. The most common simulium larvae found was the simulium venustum although other species may be identified later. This lavae is rather thick bodied, more slender in the middle, becoming thickened at posterior extremity. Though varying in size and length, they average about 1-8 of an inch in length, of a dark-brown color, and attach themselves to the under side of rocks in shallow, swift running streams. One peculiarity noticed was that they seem to prefer the fords of the streams where wagons and horses stirred the water often. Another peculiarity was the marked, uneven distribution even in the same stream. They would be found abundantly in one place, a quarter of a mile away abundantly in the second place, but in the intervening water they were found very sparingly, if at all. This peculiarity has not been satisfactorily explained. Again but few, if any, larvae would be found in that part of a stream running through a mining camp, although found above and below the camp. This is possibly due to the mine waters, sewerage or more probably to the waste oils from the machinery.

Unfortunately the season of 1912 has not been favorable for the study of water-bourne insects. Heavy rains throughout the season, have kept the streams in a swollen condition, and much damp weather during July and August prevented the flying of many species. It is hoped that another season will prove more favorable for this work.

Another insect worthy of consideration in this connection is the punkies or no-see-ems. These are quite common in this locality, and sometimes after sunset appear in great numbers. They bite both man and beast, and I have collected many on my saddle horse. After lighting they get down to business at once, and in a very short time are gorged with blood.

I would consider that I had not done full justice to the subject before me if I did not mention hookworm in this connection. In the various cases of pellagra reported in this paper, nearly every one has shown the presence of hookworm. The section of the country just discussed, shows not only the largest per cent. of pellagra but also the largest percent of hookworm infection; 65% of the total population by actual examination being infected. May it not be possible that there is some direct relation between hookworm and pellagra? May it not be possible that the hookworm at some period of its existence excretes some toxico-chemical substance, which in turn produces those symptoms we call pellagra? Is it not a well known fact that pellagra first presents itself as a toxic poison on the gastro-intestinal mucosa and later upon the skin? What sympathetic relation is more closely allied in the human frame than that of the skin and gastro-intestinal mucosa? Does not a single dose of quinine often produce a redness of the skin equal to scarlet fever? Can not this account for the fact that the disease is non-contagious? Can not this account for the non-transmissibility of the disease in utero? Would this not explain why pellagra is not found in cities? Has not Italy and Egypt alike been the home of pellagra and hookworm for centuries? Could not this account for the absence of a specific protozoan on the blood? Would this not answer at once Sambon's charge, that the decrease of pellagra in Italy is due, not so much to the improved methods of handling of corn as to the improved sanitation? Can it be merely a coincidence that nearly every case of pellagra shows hookworm infection? One thing that I have noticed is that "In the height of the diarrhoea of pellagra, no hookworm eggs are found, while in the quiescent stage of the disease they may be found plentiful in the same patient." Why this is I do not know. Perhaps in this stage the worms lay no eggs, or perhaps in the excessive watery diarrhoea they are too scattering to be found. Could the hookworm be the intermediate host of the protozoan of pellagra? Has it not been proven over and over again that every case of pellagra treated for hookworm shows some improvement? These are some of the things that I have not threshed out in my own mind, but I hand them out to you for your consideration.

Another thing that I desire to call attention to is that the mines in this section have never been worked by foreign labor, as have many of the Pennsylvania and Virginia

House "A"—Roark Cottage—Cases 1, 2 and 3 Lived Here One Year. Cases 9, 10, 11, 12 and 13 All Developed Pellagra Here and Live Here Now.

mines. Greek, Hungarian, Polish and Italian labor is here unknown. It is hardly possible that some Italian pellagrin has infected the "intermediate host" and left it to infect the remaining inhabitants.

In the study of pellagra, two things very forcibly present themselves: First, the great predominance of female patients, and second, "house infection." While some few cases seem to have developed spontaneously, without any history of previous exposure or contamination; (as cases 1, 16, 17, 18, 28, 29, 32, 36, and 43), the majority of them can be traced to an exposure to the disease by living in a house previously occupied by a pellagrin, or by close association with one.

Case No. 28 moved to the McFarland house on August 16, 1910, and moved away November 17, 1910. Another family moved in the next day and cases 4 and 5 developed in this family in July, 1911.

Case No. 16 lived in Slusher cottage No. 1, from September, 1908, to December 1, 1908. Another family moved in and case 34 in this family developed pellagra in July, 1911. Case 49 who lived in cottage No. 2, next door, and often visited case 16, developed pellagra in 1910.

Case 18 developed pellagra in 1910, in an isolated farm house. Case 19 nursed her mother, case 18, until her death, and developed the disease in May 1911. In May, 1911, case 20, a son, moved into the house in which his mother contracted the disease, and lived there until October, 1911. This man developed pellagra in March, 1912.

Case No. 1 developed pellagra while living in house No. 14, Cary camp, in June, 1910. Cases 2 and 3 (sons of case 1) developed the disease in 1911. Another family moved into house 14, and a case has developed in that family in this year, 1912. A grandson of case 1 (case not recorded) now has the disease.

Case 44 boarded during the month of July 1911, in a family with one pellagrin, and developed the disease in April, 1912. Second eruption of case 44 occurred in September, 1912.

Case 46 moved into a house at Wilton in 1911, immediately after a pellagrin died therein, and developed the disease in the spring of 1912. Case 43 developed pellagra while living in house "B" (Baker cottage) possibly in 1907 or 1908. Case 31 moved in and developed the disease in 1909 or 1910. Case 31 is also a sister-in-law to case 65 and spent much time with her.

From the practice of Dr. B. E. Gianinni, of Straight Creek, Dr. J. S. Lock, of Barboursville, and others I have been able to collect about 20 cases of "house infection" not mentioned here.

For my part I am not a believer in the "corn theory" of pellagra. In the study of

Cases 4 and 5.

the hundred or more cases that have come under my personal observation I see nothing to indicate that corn is a causal factor in the trouble, and much to indicate that it is not. It is true that 90% of the corn products used in this territory has been shipped in from other sections, but why should so few be attacked by the disease when so many use the same diet? When case 4 developed pellagra, she heard and read so much of the corn theory that she has abstained from corn meal entirely ever since. However, the disease has steadily progressed. Case 32 has never used corn meal to any extent. It is a well known fact that in the flouring mills of this country, many of the helpers form the habit of eating raw meal fresh from the stones; yet so far as I know no cases of pellagra have been reported among such helpers.

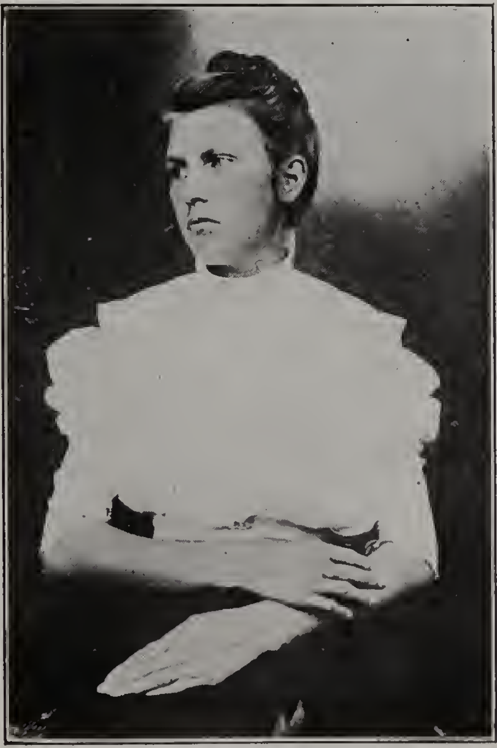
While working on this subject in the summer of 1912, it occurred to me that perhaps the "cimex lectularius" or common bed bug might be the long sought-for "intermediate host." While this obnoxious insect does not as yet answer all the requirements of the many angled situation: there are certain angles into which its characteristics fit remarkably well. After working along this line for some time, I accidentally discovered that my friend and co-worker, Dr. B. E. Gianinni, of Straight Creek, held to the same theory. We joined our forces and did some experimenting and research work, but for the want of a microscope and other laboratory equipment our work was necessarily crude and our observations far from convincing. We hope to begin earlier next year, and may be able to present something worthy of your consideration at a later date.

I believe that the true theory to this vexed problem will be found in a modification of the protozoan theary of Sambon, but I am frank to say that I think Sambon acted hastily in incriminating the simuliidae as the "intermediate host." In the literature that I have been able to gather on this subject there has been but little said either pro or con in regard to the simuliidae. The distribution of pellagra and the distribution of the sand fly are certainly not coincident, in this country at least.

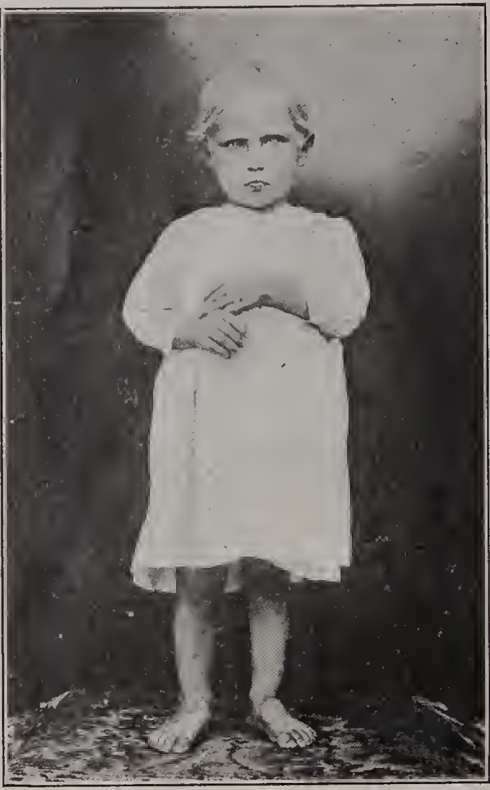
After a careful study of the literature on the subject, and a careful observation of the cases that have come under my personal observation, I have reached the following conclusions, which (though they may be wrong) I desire to present to you.

First: The use of Indian corn and its products as a food, have nothing to do with the cause of pellagra, nor with the continuation of its symptoms, even after it has been caused by some other agency.

Second: That there is most probably an "intermediate host", but the evidence at the present time is not sufficient to incriminate the simulidae of Sambon.



Case 37.—Eruption on Hands and Arms (Fading).



Case 38.—Showing Typical Eruption on Hands and Feet.

Third: That the "stage of incubation" is much longer than that of any other known disease, probably six to twelve months.

Fourth: That no physician is justified in diagnosing a case as pellagra until the eruptive stage has appeared.

Fifth: That pellagra is not contagious "in utero," nor can it be transmitted from mother to child through the medium of mother's milk.

Sixth: A large per cent. of the cases appear associated with or in the wake of some other disease, as measles, smallpox, but more especially child-birth.

Seventh: That the disease is produced by a micro-organism, either a protozoan, or an organism similar to the organism of syphilis; perhaps a spirochoeta or a spirillium.

Eighth: That the germs of the disease are located principally in the brain and spinal cord, and that they do not circulate in the blood stream except possibly under certain conditions.

Ninth: That the cure for pellagra will be found in the use of arsenical compounds, possibly one not yet brought out, and most probably one used intravenously.

Tenth: That until we know more of the cause of pellagra, segregation and prophylactic measures are useless.

Eleventh: That the eruption of pellagra is not due to the germs of the disease per se, but to the toxins generated by them.

Twelfth: That a large number of the cases seem to develop an immunity to the disease. each attack growing less and less severe, until the disease disappears.

Thirteenth: All proof of its transmissibility from person to person seems negative, although there is strong evidence that it is a house infection.

One of the greatest drawbacks in the study and treatment of the disease in this section, is poverty. Miners as a class have never learned how to "lay by a little for a rainy day." What's in the pay envelope on Saturday night is spent on Sunday and they meet the world face to face, even up on Monday morning, ready for another cut, shuffle and deal. Sickness in the home is at all times a burden, and when it strikes the bread winner or the housewife, it is hard indeed to make both ends meet. Mine physicians are as a rule poor men. Their average salary is $125.00 per month. They are called upon not only to visit and prescribe for the patient, but to furnish the drugs as well. This with the high cost of living, and the requirements of his social position, leave him but a narrow margin for experimentation or to buy costly equipment.

Let the cause of pellagra be what it may, it certainly does exist in this locality: and possibly here as nowhere else in the United States: and here I believe it should be studied.

Pellagra is here to stay, until its true cause is found and it yields its sceptre to some conquerer, I hope American born. May we of Kentucky not be found wanting, for to him who solves this knotty problem comes the plaudits of mankind, and an honor nobly won.

Case No. 1.—Case No. 14 of Dr. R. M. Grimm.

Mrs. John F., female, white, married, age 44, mother of 8 children; six people in family, two other mild cases in the family. First developed symptoms in 1910. The eruption appeared in blackberry time, which in this section is June. It has been made to appear in the literature that this case developed in the Roark cottage, but on more careful investigation, I find that this case developed in house No. 14, in the Cary Camp, a slide of which is herewith shown.

This case was seen by Dr. R. M. Grimm in August, 1911, and by Prof. Garman in September, 1911. (See Bulletin No. 159, page 8). A photograph occurs in State Board Bulletin, Vol. 1, No. 9, and has been copied extensively over the United States.

This case is interesting in many ways. First the disease presents but little intermission in its symptoms. The eruption occurs regularly about every two months, and the mental symptoms have been marked throughout the disease. Being a blonde of very fair skin, the eruption shows exceedingly well. This is the case referred to by Prof. Garman in Bulletin 159, pages 8 and 9.

This woman has all her life been of a weak, nervous temperament; always complaining about some ache or pain, a confirmed patent medicine fiend; chewed tobacco and dipped snuff. During the last year of her life she became a convert of the faith cure religion and took very little medicine. It is impossible to trace just where she contracted the disease. The family moved often, sometimes five or six times in a single year, often because she became dissatisfied with a place and wanted to change. From November, 1911, to June, 1912, she lived beyond the reach of my personal observation, but in June, 1912, she moved back to Cary. Her condition at this time showed great change. Weak and emaciated much diarrhoea and sore mouth, eruption prominent, loss of appetite, increased salivation, mind wandering at all times. From the middle of June to her death she was confined to her bed. The disease progressed rapidly: extreme emaciation, greatly increased salivation, marked involvement of the vagino-rectal areas, greatly increased reflexes, complete loss of appetite, mind completely incapable of any concentration of thought or or ideas. She imagined, for instance, that the hips had become unjointed from the body, and wanted a surgical operation to replace them. Patient died of exhaustion, August 20th, 1912, at 7 p. m.

Case No. 4.—Case No. 20 of Dr. R. M. Grimm.

Mrs. Malinda McF., female, white, widow, age 53, mother of 8 children, married at 21, widow at 51. Lived a large part of her life in and around Whitley county, Kentucky. Moved into the McFarland house in Fox Ridge camp on November 18th, 1910, and lived there until September 9th, 1912. In June, 1911, she had a sore mouth and diarrhoea that was possibly the beginning symptoms of pellagra. In July following she had the first eruption, which was rather extensive: very red and firey and extended nearly to the elbows. Seen by Dr. McCormack and others in August, 1911. The eruption disappeared in the fall and winter of 1911, but many symptoms remained. Was very constipated, complained of a burning in the feet and legs all winter: would sleep with feet from under cover in the very coldest weather. Complains of much burning in the stomach and bowels, as if they were raw. Shows hookworm infection but declines to be treated for it. Has spots and sprangles before the eyes, knee-jerk greatly exaggerated. Eleven in the family, all equally exposed to the infection, one other mild case in the family. Complains of great muscular weakness, sits about most of the time.

McFarland House.—Case 28 Lived in this House Three Months. Cases 4 and 5 Both Developed Pellagra While Living Here.

All symptoms returned in the early spring of 1912, the eruption remaining most all summer. Some loss of weight. A dear lover of corn bread and has eaten it all her life. Has used very little, if any, since the disease appeared. Died January 1, 1913.

Case No. 5.—Case No. 21 of Dr. R. M. Grimm.

Edna W., female, white, child, 4 years old, grandchild of case 4 and lives with her. Developed eruption about the same time grandmother did, though mild. In the fall of 1911, this child had a severe attack of cerebrospinal meningitis and life was despaired of for many days. Recovery complete, and through the winter of 1911 she seemed normal. I watched her closely and no symptoms reappeared until September, 1912, when the telltale eruption on the hands and feet began to show. She has had no diarrhoea or sore mouth this year. The case seems to be a light one.

Case No. 9.—Case No. 6 of Dr. R. M. Grimm.

Mrs. D. B. R., female, white, married, age 38, mother of 8 children. Lived on Dorton Branch during 1908 and 1909. Moved to House No. —, in Cary camp, in December, 1909. Had several attacks of very sore mouth in the year 1910 which could not be accounted for. A child was born June 13th, 1910, but can remember no eruption appearing during this year. Moved back to the Roark cottage on November 4th, 1910, and developed eruption in the latter part of May, 1911. Very sore mouth but no diarrhoea. Hands began to burn and later got red and peeled off in dry branny scales. Also appeared on the neck, but not on the feet. Baby nursed mother until July, 1912 and has no appreciable signs of the disease. Cases 10, 11, 12, 13, all in the same family and the same house. Return of the eruption in the early spring of 1912, also in July of the same year. Patient has felt much better in 1912 than in the year 1911. Never knew of any cases of the disease until she had it. Lived within 50 feet of case 1 during December, 1909, and January, 1910. Symptoms seem to be decreasing in severity. Lives within 50 yards of a creek in which Prof. Garman found similium larvae in abundance.

Baker Cottage (House "B")—Case 43 Contracted the Disease Here. Case 31 Also Lived Here but it is Uncertain Where she Contracted the Disease.

Case No. 10.—Gertie R., male, white, age 14 years, son of case 9.

First developed eruption in June and July, 1911, on both hands and feet. Sore mouth but no diarrhoea. Returned in April and July, 1912, but not very marked in either case. No sore mouth or diarrhoea in 1912. Case mild and decreasing in severity.

Case No. 11.—Case No. 7 of Dr. R. M. Grimm.

Ashley R., male, white, age 8, son of case 9. Developed eruption first in July, 1911, while living in the Roark cottage. Severe sore mouth and diarrhoea marked the attack.

Eruption on hands and feet and neck. Some return later in the fall. Return of the trouble in May, 1912. No return in July but some in September, 1912. The attacks are becoming much lighter, except the attack of September, 1912, which is the most severe of the year.

Case No. 16.—Case No. 11 of Dr. R. M. Grimm.

Mrs. Wm. R., female, white, age 26, three children, one dead. Moved to Big Hill camps in May, 1907, and lived there till March, 1908. The first eruptive symptoms appeared from March 1st to March 15th, 1908. Moved to Chenoa in May, 1908, and lived there till the following September. During the summer of 1908, she was sick a great deal, in bed part of the time. Had much diarrhoea during the summer, and was treated by physicians for "catarrh of the bowels." In September, 1908, she moved to Slusher cottage No. 1, and lived there till December 2, when she moved to Cary. During the summer of 1909 this patient was very bad, being in bed most of the entire summer. She was seen by some four or five physicians, who were all of the opinion that she was suffering from tubercular peritonitis, and so treated the case. During the winter of 1909-10, she became much improved and seemed to be practically well. During the spring and summer of 1910 the symptoms returned very slightly, if at all. In September, 1910, she was delivered of a healthy child, which nursed the mother's breast. Nothing was particularly noticeable during the winter of 1910, but in the spring of 1911 the symptoms returned with all their vigor. The full chain of symptoms returned early in the season. Much emaciation and prostration. In bed most all summer. Nursed infant throughout the summer, contrary to advice. Seen by Dr. J. N. McCormack in August, 1911, who said she would be "dead in two weeks." Dr. Grimm also considered her case "early fatal."

A Group of Pellagrins at Cary, Ky. Every Person in the Group is a Pellagrin.

In September, 1911, patient moved from Cary to Cnenoa. During the winter and fall of 1911 she improved somewhat but was never well. During the summer of 1912 she has been in better health than for some time. She is able to do her own housework, even to washing and ironing. During the summer of 1912 she has had several returns of the eruption in a mild form, together with the sore mouth and diarrhoea. The eruption extends above the elbows on the arms, and is typical on the neck. Last year it appeared on the face but has not appeared there this year. This woman has gained very much in weight. In September, 1911, she weighed 107 lbs; in September, 1912, she weighed 149 lbs.; in October, 1912, 165 lbs.

This case is interesting for several reasons: First it is the oldest *authentic* case in this section. Second., it is much better every even year, and much worse every odd year. Third, a child born two years after the first eruption and nursed the mother's breast one year, has shown no appearance of the disease.

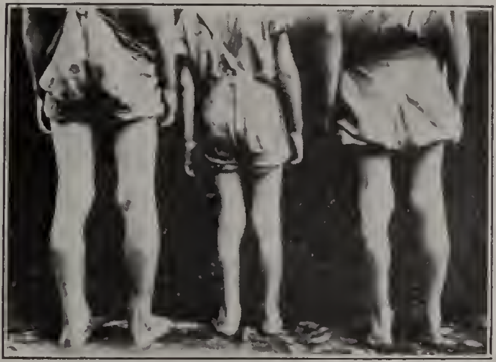
Case No. 17.—Case No. 13 of Dr. R. M. Grimm.

Mrs. Sam G.. female, white, married, age 38, mother of 6 children. The eruption in this case was first noticed while living at Elys in March, 1909, but very little attention was paid to it. Don't know whether it returned in the fall of that year or not. Moved to Cary in January, 1910. Delivered of a child on February 12, 1910, which died in about ten days of broncho-pneumonia. Moved to Elys in March, 1910, and immediately developed a case of small-pox which was rather severe. Moved to Stony Fork and lived there during the summer of 1910. Was treated by Dr. Schultz for the eruption, but did not recognize its nature. Had several attacks of diarrhoea during this period. Moved to Cary in March, 1911, and lived there till November, 1911. I saw this case for the first time in May, 1911, but did not definitely make up my mind as to the true nature of the disease until about the first of June. At this time she was very weak, unable to walk without help, mind foggy, eruption, diarrhoea, sore mouth, and mental symptoms all prominent. This was one of the cases presented at the clinic on July 7th, 1911, already referred to.

About July 1st, 1911, this patient was placed on a treatment of creosote, oil wintergreen, and glycerine equal parts, and for some reason a very marked improvement of all symptoms was noticed. The patient was able in a short time to do her own housework, something she had not done for many months. The eruption faded away and did not return during the season. Patient moved out of my reach during the winter of 1911, but in February, 1912, moved back to be treated by me. Eruption returned in March, 1912, in a mild form: very little other symptoms except the mind was foggy. The accompanying photograph was taken March 19th, 1912. Patient continued to grow worse until May 1st, 1912, when she passed into convulsions, with many tonic and clonic spasms: these continued with less and less severity, complete loss of mind, incontinence of urine and feces until May 19th, when she died of exhaustion.

Section Houses on L. & N. R. R.—Two Cases Developed in House on the Right, None in Other Two.

This case is interesting because it was the first case of pellagra in the State that was publicly diagnosed as such, so far as I know. It is also interesting in that it showed marked improvement under a certain line of treatment which later refused to do any good. The patient was also in a state of spasms for



Cases 57, 58 and 59.—Typical Eruption on Back of Legs.

nineteen days before her death, which is very unusual in these cases.

Case 18.—Mrs. Margaret L., female, white, widow, age 55. Taken sick in February or March, 1910. Had a bad diarrhoea, eruption on hands soon after. Not seen by any physician. Mind began to fail in June of same year. Had been living in the same house for three years. Moved to Arjay camps in the following winter. I saw patient soon after. Mind completely gone: singing, praying, hallucinations, very weak and exhausted: not able to walk across the room. Confined to bed from about Februtry 1st, 1911. Grew rapidly worse. Saw patient five or six times. No eruption that I noticed. Incontinence of urine and feces. Died of exhaustion March 28th, 1911. Diagnosis was not made in this case until about one year after death.

Case No. 19.—Henry L., male, white, married, age about 25, day laborer in mines, son of case 18. Noticed eruption in early spring of 1912. No diarrhoea or sore mouth. In May, 1911, moved to same house mother lived in when she contracted the disease, and lived there until October, 1911. In October, 1911, moved near to case 24, and associated with him all winter. Patient complains a great deal of stomach trouble. No return of the symptoms during the summer of 1912 up to this time. Patient has gained weight and says he is cured.

Case No. 20.—Case No. 16 of Dr. R. M. Grimm.

Dora L., female, white, age 18, single, daughter of case 18 and associated with her all through her life. Waited on her during her last illness. Eruption appeared about May, 1911. Seen by Dr. Grimm in August. Was then on back of her hands and forearms; typical collarette; very much run down in health. Has been no return of the symptoms that I know of. Have not seen the case for some months.

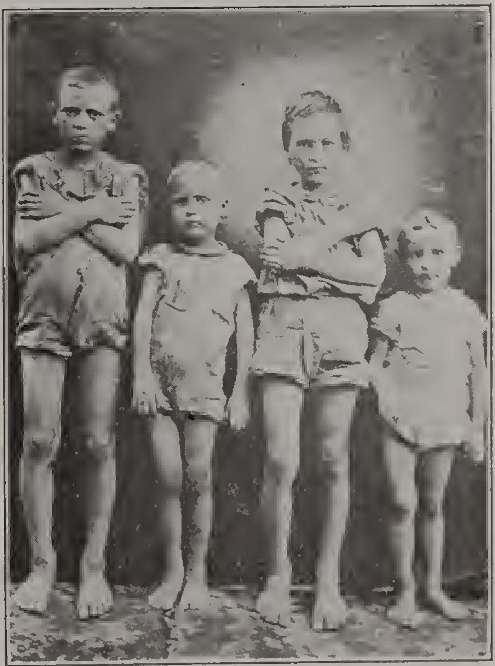
Case No. 21.—Case No. — of Dr. R. M. Grimm.

Dock J., male, white, married, coal miner, age about 50. Patient developed a very sore mouth and obstinate diarrhoea in July, 1911, while working in the mines. Was diagnosed as a case of "pellagra sine pellagra" at the time. Seen later by Dr. Grimm, who concurred in the diagnosis. About the middle of August the patient became so weak that he was unable to continue work longer on the mines and in a few days the eruption became prominent. Patient continued to lapse between better and worse until late in the fall, when he began to improve and seemed normal throughout the winter. Moved away in the winter and I have not seen the case since. I understand that he has some trouble this summer.

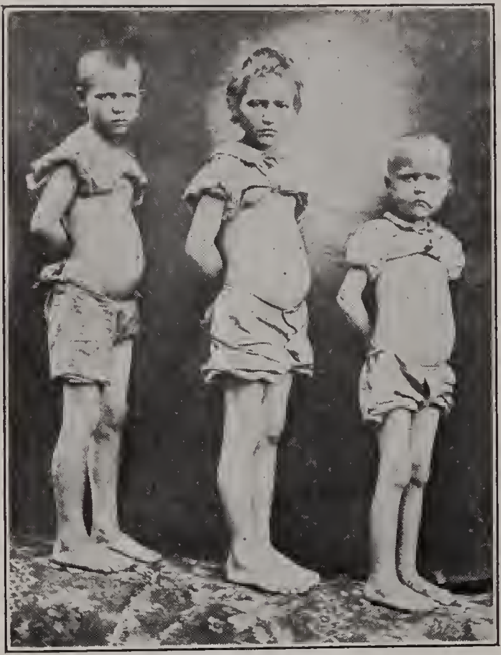
An interesting phase of this case was that the eruption did not appear until the patient was compelled to quit the mines, and then it appeared very promptly. This man worked every day in the mines and was exposed to very few, if any, of the daylight influences if pellagra. No other cases in his family of eight at home.

Case No. 22.—Case of Dr. F. D. Haston, Arjay, Ky.

Mahala S., female, white, married, age 26, mother of 4 children, one dead. Two years ago a scaly eruption occurred on the back of both hands, accompanied by diarrhoea: otherwise general health fair. About Febru-



Cases 57, 58, 59 and 60 (Brothers). Showing Eruption on Hands and Feet.



Cases 57, 58 and 59.—Hookworm and Pellagra Combined.

ary, 1st, 1912, mouth became sore and ulcerated; some diarrhoea. About March 1st, 1912, eruption appeared on both hands, scaly; burning sensation increased on exposure to the sun. Complains of burning sensation in the stomach. Has continued about the same throughout the summer. Diet largely corn bread. Seems to be a mild case. This case is complicated with syphilis and the results of "606" will be watched with interest.

Case No. 23.—Mrs. Lizzie B., female, white, married, age 29, mother of 5 children, one dead. Weak, nervous temperament, always on the sick list. Developed mild eruption in March, 1912. Has lived in the same house for five years. Had no sore mouth or diarrhoea. Symptoms have not returned at this time; may develop next year. Not a positive case.

Case No. 24.—Case of Dr. F. D. Haston, Arjay, Ky.

Joe K., male, white, married, age 32, day laborer on farm. Has been in comparatively good health all his life until about March 1st, 1912, when he developed a diarrhoea, profuse at times, associated with much pain, and a little later a very sore mouth, and scarlet red eruption on back of both hands. About the middle of May a typical collarette developed on the back of neck. Loss of energy and weight. Appetite bad at times. More fond of corn bread than any other bread-stuff and eats much of it. A near neighbor of case 19, and associated with him a good deal. Moved to Clay county in the summer and further trace of the case lost.

Case No. 25.—Case of Dr. F. D. Haston, Arjay, Ky.

Mrs. Lizzie L., white, female, married, seven children, three living. Family history good, always been in fairly good health. Gives history of having sore mouth for seven or eight years at intervals, but very much worse in the early spring of 1912. About March 1st, 1912, a scarlet red eruption developed on the backs of both hands, with a burning sensation, worse in the sunshine. About May 15th, developed a diarrhoea, with burning in the stomach, but no abdominal pain. Very fond of corn bread; won't eat any other bread when she has corn meal. Never lived in a mining camp. Case 22 lives 1-4 mile away on same creek. Has lived in the same house two years, and in 100 yards of same place for seven years. Very quiet disposition, rarely visits, even the neighbors.

Case No. 26.—Case of Dr. F. D. Haston, Arjay, Ky.

Mrs. Henry Q., female, white, married, age 39, mother of 8 children. First noticed eruption in March, 1912, never had any special sore mouth or diarrhoea. Some bloody discharges in July, 1912; mental symptoms very pronounced, a marked pellagraphobia. Has lived in the same house for one year before the eruption appeared, and never saw a case of pellagra to her knowledge. Lives in a closely settle mining camp, but no other cases very close about. No case of pellagra had ever lived in the same house before. No other cases in the family.

Case No. 27.—Mary W., female, colored, age 63, mother of 12 children. Developed a case of eruption on the hands twenty years ago, immediately after the birth of a child: called by attending physicians "erysipelas." This trouble got well with no return of symptoms until 1911. First noticed eruption in the spring of 1911 in "gardening time" (April). Had a bad diarrhoea and sore mouth at the same time. I saw this case several times in June and July, 1911. The height of the eruption had passed but the dry chocolate brown scaly condition was typical, as was also the diarrhoea and sore mouth. A well-marked Cassall collar was present. The most noticeable symptom was the mental condition. When a stranger first entered the room she seemed perfectly rational, and could answer questions truthfully, but after a while her mind became foggy and answers were very incoherent. The family first noticed that her mind was wrong in the summer of 1910. She began by singing, praying and teaching Scripture. Mind continued to get worse until sent to the Eastern Kentucky Asylum in September, 1911. A letter in query to her history while in the asylum received the following reply:

Lexington, Ky., July 31, 1912.—Dr. J. Harry Hendren, Cary, Ky.—Dear Sir: Your letter of recent date received. While Mary W., was here she was in very bad condition physically and went home in a very weakened condition. She might have had some symptoms of pellagra while here, however her case was not a decided one. Yours very truly, C. A. Nevitt, M. D., Supt.

Her mind evidently cleared up to some extent, as she was dismissed from the institution in March, 1912.

In April intense gastro-intestinal symptoms reappeared. By May 1st this was so intense that the patient could neither eat nor swallow water. The mental condition was fairly clear to the last and no eruption appeared, perhaps because patient was not in the sun. She died of exhaustion on May 9th, 1912. I regret that I have no photograph to offer.

This case presents two interesting features: First, this patient may have had the disease twenty years ago, and second, there may be some cases of pellagra in the various asylums of the country in which the diagnosis of pellagra is yet unmade.

Case No. 28.—Same as case 127 of Dr. R. M. Grimm.

Eva Lee L., female, colored, age 17, single. First developed symptoms of pellagra while living at Straight Creek: has been living in the same house for four or five years. This occurred in the early spring of 1910. Attended a supper in April, and developed a sore mouth the next day: thought she was poisoned by eating something. This was followed by a mild diarrhoea, then the eruption.

Patient moved from Straight Creek into the McFarland house in Fox Ridge camp on August 16th, 1910, and lived there until November 17th, 1910. Moved to another house in the same camp and died June, 1911.

This patient was of a very quiet disposition: rarely visited even among the neighbors. Spent most of the time at home: a great reader, but shunned company. Never out of the State of Kentucky. Five members of the family, no other cases in the family, or among the colored of the immediate vicinity. Had nothing to do with case 27.

Patient was always able to be about the house until the latter part of May, 1911, when she took her bed. All the symptoms progressed rapidly: the hands, elbows, shoulders, knees and feet, were covered with thick heavy scales that were prone to bleed on the slightest provocation. The sore mouth and salivation was terrific. She would lie on the side of her face and the saliva would drain down an oilcloth into a cup prepared for it. She seemed to think that her whole trouble was due to "piles" and that was her whole complaint. Repeated examination showed one little hemorrhoid, about the size of a split

A School in Bell County. Seventy-five Per Cent. Show Hookworm Infection. Several Pellagrins In This Group.

pea, yet the patient thought that the whole chain of symptoms would be relieved if that were removed. Patient was baptized by immersion in a creek two days before her death. It did not seem to injure her in any way.

Case No. 32.—Case No. 17 of Dr. R. M. Grimm.

Henry H., white, male, single, age 37, coal miner, first developed pellagra about 6 years ago while living in Whitley county. The attack was severe at that time. During the seasons of 1907, 1908, 1909, and 1910, there was no return of the trouble. Did his usual work during these years. In the spring of 1911 the trouble recurred with unusual vigor, beginning about the first of May. Remained more or less prominent during the whole season. Patient was presented to the Pellagra Conference clinic at the Corbin Convention on August 9th, 1911, and attracted a good deal of comment on account of the prominence of the symptoms. During the season of 1912, all the symptoms have been slight, not enough to keep the patient from his usual work in the mines. Patient has moved about considerably since the disease first appeared, living in West Virginia part of the time. This patient does not like corn bread, and never uses it if he can get any other bread, but is a dear lover of corn syrup, and partakes of it heartily. He does not drink.

Case No. 34.—Herbert C., white, male, age 7 years. Family moved into Slusher house No. 1, on December 3rd, 1908, immediately after case 16 moved out, and lived there until November, 1909. Moved to Straight Creek, and developed an eruption in the spring of 1911. Eruption appeared on the feet only. No sore mouth or diarrhoea at this time. Second appearance in the early spring of 1912, on feet only. Third appearance in July, 1912, on both feet and hands. Has never had any sore mouth or diarrhoea, about the time of the eruption, but has had a looseness of his bowels all his life. Whole family prefer cornbread to any kind of bread stuff, and use much of it at all times. Used water from a shallow well, which tasted very bad at times. Mrs. S., case 49, lived next door during the entire time that this case lived in the Slusher cottage. Family now live in Cary camp, house No. 15.

Case No. 36.—Case of Drs. Nuckols and Giananni, Straight Creek, Ky.

Lindsay P., male, white, married, coal miner, age 55. This man moved to Straight Creek and lived there from 1904 to 1910. In September, 1910, he moved to Breastwork Hill, a suburb of Pineville, and lived there two months. Moved to Dorton Branch December 10, 1910, and lived there until September 1911, when he moved back to Straight Creek. The family history in this case is decidedly negative. Most of his people live to a ripe old age.

The first symptoms of pellagra developed in the spring of 1911 possibly May or June. Was thought to be a sunburn due to hoeing in the garden. No sore mouth or diarrhoea or other noticeable symptoms at this time. Family noticed that he was nervous and irritable, something unusual for him. In August, 1911, was injured on back of head by accident in mines; in bed ten days. From this time on, patient complained of dizziness, roaring in head and other unpleasant symptoms. Said head was too big for body; hard to balance himself; would step backward two or three times before he could steady himself. Worked in the mines regularly till March, 1912. Complained of feeling drunk all the time. Memory failed rapidly and could not attend to any business. Would repeat things to his family often. Did not like to talk;, said his jaws were tired; very nervous, any unusual noise upset him; an organ in the home remained unopened for many weeks before his death.

Slight eruption appeared in May, 1912. Feet and legs began to swell one month before death. Had no knowledge of ever having been with a pellagrin, or ever having seen one. So far as traceable no pellagrin ever lived in the houses occupied by him. This patient had no marked diarrhoea except in the last month of his illness.

Died July 26th, 1912, apparently of exhaustion.

Case No. 37.—Mrs. Virgie H., female, white, married, age 18, mother of two children, one and possibly both afflicted with the disease. Has been living in Cary for two years. First noticed eruption in April, 1912. Had a very sore mouth and bad diarrhoea at this time, eruption followed. covering the forearms nearly to the elbow. Moved to Harlan Court House in May, 1912. Eruption appeared again in July, 1912, as did also the sore mouth and diarrhoea. Photographed this case in August, 1912: the eruption had mostly disappeared, but the chocolate brown markings were very plain. Unfortunately the photograph fails to bring out the markings as clearly as desired. Patient has a salty taste in the mouth often, and wants much salt in her food. A neighbor of case 1 and often visited her. Never lived in a house where a pellagrin had lived, to her knowledge.

Case No. 38.—Rena Belle H., age 3, female, white, child of case 37. First noticed eruption in July, 1912, in Harlan Court House. Had a diarrhoea and sore mouth at the same time. When I saw this case in August the height of the eruption had passed, but the markings were very characteristic on the hands and feet as the accompanying photograph will show.

This case had no sign of the trouble in the early part of the spring when her mother was attacked, and in all probability caught the disease from her mother, either directly or indirectly.

Case No. 39.—Case No. 3 of Dr. O. P. Nuckols.

George B., white, male, married, coal miner, age 46. Patient was an old asthmatic case, which had been treated by nearly every physician in Eastern Kentucky. A wanderer from place to place. According to Dr. Nuckols, had a mild eruption on the back of hands in the fall of 1910, which disappeared later. Earl in the spring of 1911, he suffered greatly from weakness and vertigo. About the first of June the eruption returned and extended up to the elbows, also about the neck and edges of the hair, soon becoming a dirty brown, dry and scaly. Red tongue, dry parched lips, occasional diarrhoea: power of locomotion much disturbed; would fall about as if drunk; had to use two canes to steady himself. Reflexes irregular, mental condition depressed, never very good. On July 9th, 1911 patient had an attack of asthma with considerable oedema of the lungs, and died next day, July 10th, 1911, of oedema of the lungs.

COUNTY SOCIETY REPORTS

Bourbon—The Bourbon County Medical Society met at Paris, on March 20th in its second quarterly meeting at 7:30 p. m., in the county court room of the Bourbon County court house, and had as its guest of honor, Dr. Martin H. Fisher, Eichberg Professor of Medicine in Cincinnati University, who delivered his famous illustrated lecture on "The Treatment of Oedema and Nephritis."

As is well known to everyone, Prof. Fisher's method of using an alkaline-saline solution has caused widespread discussion in medical circles throughout the world.

Local members were especially invited to come in early and inspect the progress toward completion of the Bourbon County Hospital. They were also requested to bear in mind that State dues of $3.00 and County dues of $1.00 should be paid at that time.

Effort to organize the "Clinical Society" for immediate work was made at this time. We had a famous Sphaghetti Cook to cater to us after the meeting. Professor Fisher was accorded a warm and enthusiastic reception.

C. G. DAUGHERTY, Secretary.

Carlisle—The Carlisle County Medical Society met at Arlington, March 4, 1913, with President C. D. Shelbourne presiding. Members present: Payne, Crouch, W. L. Mosby, Marshall, Simpson, Dunn, Hocker, Jackson and Shelbourne.

Minutes of the December meeting were read and approved.

The Committee on Arrangements reported and was discharged.

Motion made and carried that the members of the Carlisle County Society pay $3.00 for 1913.

W. Z. Jackson reported a case of "Chole-cystitis with Peritonitis and Gangrene of Appendix," also there was a large abscess extending from under the lower lobe of the liver downward on the right side to crest of ileum.

R. T. Hocker and **Dunn** also saw the case in the meantime. The puzzling points in the case were absence of fever and pulse running at 80. The above conditions were found at autopsy which was held on the 9th day of illness. The case was freely discussed.

T. J. Marshall thought an early exploratory operation would have been the proper thing.

G. W. Payne thought appendicitis the primary cause, the other conditions being secondary.

W. L. Mosby thought cholecystitis to be the predominating trouble.

C. D. Shelbourne thought that death was due to peritonitis. The case was further discussed by Crouch and Hocker. W. Z. Jackson closed the discussion.

The society adjourned to the Hotel Victor for dinner. Reassembled at 1 P. M.

H. T. Crouch read a very fine paper on "Appendicitis." He said that only by operation could a positive diagnosis be made, also delay in operation often proves disastrous. He insisted that we establish a hospital here in our county and keep the patients at home, doing the work ourselves. His paper contained many other valuable points which you may see in the Journal.

G. W. Payne opened the discussion, which was followed by all present. The discussion was closeed by the writer.

The last on program was a paper prepared by **Prof. Bryant**, of the Arlington High School. It was a very entertaining one. The society extended to him a vote of thanks for his efforts.

C. D. Shelbourne asked the society to meet with him in June. The society gladly accepted the invitation.

No further business appearing, the society adjourned.

J. F. DUNN, Secretary.

Christian—The Christian County Medical Society met in joint session with the druggists of the county, in the Metcalf Avalon, Tuesday, March 18, at 1:30 with President Stites presiding.

Minutes of the January and February meetings were read and approved.

Members present: Sights, Stites, Barnes, Harned, Gaither, Croft, Lacy, Gates, Donnelly, Stevens, Bell, Lovin, Watts, Barker, Erkiletian, Keith, Paine, Thomas, Rice, and Sandbach. Druggists: Higgins, Elgin, Cook, Averitt, and Johnson of Hopkinsville and Wood of Pembroke, Croft of Crofton and Brandon of Lafayette.

J. L. Barker read a most excellent paper on "Early Diagnosis and Treatment of Pulmonary Tuberculosis." He said an early diagnosis, forced feeding, forced rest, and plenty of fresh air sunshine were the most essential points. He prescribes these just the same as medicine.

Discussion.

J. G. Gaither uses tuberculin for early diagnosis. Does not think that the forced feeding and forced rest accomplishes as much as was once though they did.

H. P. Sights: Any means to help make an early diagnosis is as a means to save life. Believe that the X-ray is a means for diagnosis. No treatment like the open air, rest and forced feeding.

Darwin Bell: Early diagnosis, forced feeding, rest and air must be had if you hope for results.

J. P. Keith: Much can be done in the preparation of the room for the patient.

J. H. Stites: Where possible all patients should be placed in a tubercular sanatorium for at least a month.

All agreed as to the use of tuberculin.

J. O. Cook's address on the "Narcotic Evil," and **Darwin Bell's** paper on "Common Interest," and **L. A. Johnson's** address on "Should Physicians Prescribe Proprietaries?" were all great work and brought out the greatest discussion in the history of the society. This was a very important meeting, something was accomplished that we had needed for a long time, a better understanding between the druggist and the physician.

W. S. SANDBACH, Secretary.

Christian—The Christian County Medical Society met in regular session with Dr. Sights at the Western State Hospital Tuesday, February 18th, at 1 P. M., with Dr. Stites in the chair.

The society was honored with an excellent dinner at 1:30 after which we were hightly entertaine dby speeches from Drs. Sights and A. T. McCormack and Editor T. C. Underwood.

Those present were: Drs. Stites, Sights, Campbell, Caudle, Haynes, Backus, Lackey, Barker, Lacy, Croft, Gates, Stone, Paine, Beazley, Perkins, Stevens, Blakey, Lovin, Donnelly, Watts, Gaither, Woosley, Keith, Wright, Bell, Erkiletian, Harned, Robinson, and Sandbach. Visitors: A. T. McCormack, of Bowling Green; D. Y. Keith, of Louisville, and C. M. Gower, of Trenton.

E. L. Gates presented a very interesting case of kidney trouble of quite an old standing and uncertain diagnosis. It was examined by several and Drs. Bell, McCormack and Gaither discussed the case.

A. T. McCormack gave an excellent talk on the condition of affairs in Kentucky along the line of hookworm and pellagra, illustrated with lantern slides.

D. Y. Keith's paper on "Malposition of Abdominal Viscera," illustrated with lantern slides was a treat to the society and the essayist certainly proved that he is mastering the subject. Both papers received close attention and were freely discussed.

After being taken through the Hospital by Drs. Sights and Campbell showing us the wonderful improvements in the last few years, we stood adjourned. All present were loud in their praise of Dr. Sights, the Hospital and the meeting.

W. S. SANDBACH, Secretary.

Christian—The Christian County Medical Society met in regular session Tuesday, Janaary 21st, in the Metcalf Avalon, Hopkinsville, at 1:30 P. M., with President Stites presiding. Those present were: Stites, Southall, Stevens, Bell, Blakey, Keith, Barnes, Sights, Thomas, Watts, Lackey, Campbell, Brown, Barker, Donnelly, Gaither, Erkiletian, McGraw and Sandbach. We had with us Druggists Elgin, Coates, Cook, Fowler, Blyth and Boyd.

The Rev. Dr. Eshman was a very pleasant visitor.

Mr. T. L. Metcalf spread a most elegant dinner at 1 o'clock, Rev. Eshman returned thanks and we all proved our appreciation by our hearty eating. Then Dr. Stites spoke a few words extending the thanks of the society to Mr. Metcalf.

The minutes of the last meeting were read and approved.

H. P. Sights extended an invitation to meet with him at our next meeting, which was accepted.

F. M. Brown was reinstated to membership in our society.

H. W. Watts and **Barker** reported a case of "Puerperal Sepsis," in which they had used the serum treatment with good results.

W. S. Sandbach reported a case of "Microcephilis in a Child of Eighteen Months." Drs. Sights and Gaither advised surgical procedure, the only hope.

D. H. Erkiletian read a very interesting paper on "Intestinal Obstruction."

H. P. Sights' paper on "Pellagra," was a treat to our society and it was voted to send it to the JOURNAL for publication.

Both of these papers received careful attention and brought out a free discussion.

The President addressed the society for a few minutes and we adjourned to meet the third Tuesday in February, with Dr. Sights at the Western State Hospital.

W. S. SANDBACH, Secretary.

Crittenden—The Crittenden County Medical Society met in C. B. Ellis' office at Marion, at 1 P. M., March 5, 1913, and was called to order by President V. R. Fox with the following members present: Drs. I. H. Clement, C. G. Moreland, T. A. Frazer, V. R. Fox, and J. E. Fox.

The minutes of the last meeting were read and approved.

T. Atchison Frazer read his paper on "The Intestinal Parasites," which was discussed by Drs. Clement, J. E. Fox, Moreland, V. R. Fox, and Frazer.

There being no other papers, the remainder of the hour was spent in the report and discussion of clinical cases by the physicians present.

Adjourned to meet April 2, 1913, at 1 P. M.

J. ERNEST FOX, Secretary.

Crittenden—The Crittenden County Medical Society met in the office of Drs. Clement & Fox, at Marion, on April 2, 1913, at 1 P. M.

The President and Vice President being absent, the meeting was called to order by the Secretary.

T. Atchison Frazer read a paper on "The Food We Eat," which was discussed by **I. H. Clement** and **Frazer.**

The other papers were deferred until next meeting at the request of the writers. Adjourned to meet May 7, at 1 P. M.

J. ERNEST FOX, Secretary.

Daviess—The Daviess County Medical Society met in regular quarterly session at the City Hall, Owensboro, on Tuesday, March 18th, with thirty-three members present.

Irving Denton was admitted to membership.

M. H. Walker presented a transfer card from the Webster County Society stating that he was in good standing in that county with dues paid for the year. He was admitted to membership.

F. M. Sherman and **Albert A. Schultz** made application for membership. Dr. Sherman is located at Lewisport, and Dr. Shultz has recently located in Owensboro.

J. W. Ellis invited the society to meet with him at Masonville in June. It is needless to say the invitation was accepted.

J. W. Ellis said he was called yesterday to see a man who had taken 25 tablets, each containing 7 3-10 grains bichloride of mercury with suicidal intent. Antidote was printed on bottle and his mother had applied them in ten minutes and had vomited him. He was pulseless, but recovered and this morning had a moderately good pulse, but was vomiting bloody mucus.

S. Lambert said he had seen a patient who had taken a heaping teaspoonful of bichloride. After a short time he had suppression of urine and died in nine days.

J. A. Kirk thought people should not be allowed to get these drugs. He saw a young girl who had taken about 100 grains of calomel. She recovered.

J. L. Carter thought our patients should not know what drugs they take, for that reason he dispenses his own drugs.

C. H. Todd read a paper on "The Tubercle of Tuberculosis."

The essayist took the ground that the bacillus is secondary to the tubercle. In other words it is born when the tubercle breaks down.

The paper was generously and vigorously discussed, all taking issue with the theory set forth, except J. Glahn, who agreed with it.

At the afternoon session S. P. Oldham read a paper on "Volvulus," and reported a case. The paper was generally discussed.

W. E. Irvin read a paper entitled "The X-ray As a Diagnostic Agent." The doctor reported several cases with obscure diagnosis, and displayed radiographs, which cleared up the diagnosis, and helped the physicians out of trouble. In discussing the paper Dr. Rodman also displayed some interesting radiographs, which had enabled the surgeons to make a diagnosis.

J. J. RODMAN, Secretary.

Graves—At a business meeting of the Graves County Medical Society, held in Dr. Hunt's office in this city, Thursday, March 27, 1913, the election of officers and the discussion of "Spinal Meningitis" and other diseases were the matters of importance. The officers chosen for the ensuing year are: John L. Dismukes, President; J. H. Shelton, Vice President; H. H. Hunt, Secretary and Treasurer. W. S. Hargrove, of Hickory Grove, and Dr. Ringo, of Water Valley, were named as delegates to the meeting of the State Medical Society in Louisville, May 24.

John Forest, of Lynnville, was elected to membership.

"'606'—Its Indication and Uses," was very ably discussed by — —**Puryear**, who was followed by **Drs. Fuller** and **Dismukes.**

J. H. Shelton reported a very interesting case

R. L. Ringo made a short talk on morphine habitues.

The dues for the year were made $2.60 and each doctor present was made a committee of one to see that every other doctor in the county became a member by April 1, if possible.

The society's members will meet at Sedalia, on May 8, as guests of the doctors of the south section of the county. Drs. Hunt, Kirksey and Forrest were named a committee to arrange the program for the session.

Hart—An open session of the Hart County Medical Society was held at the Court House, Tuesday afternoon. Dr. A. T. McCormack, Secretary of the State Medical Society; Dr. W. L. Heizer, State Registrar of Vital Statistics, and Dr. M. W. Steele, one of the State Sanitary Workers, were present and delivered hygienic lectures for about two hours. These lectures were illustrated by stereopticon views and were most highly instructive. Besides the county physicians there were a large audience present and all were greatly benefited.

A. T. McCormack showed the great importance of a timely recognition and proper treatment of many of the prevalent diseases. He showed the results of treatment of hookworm and pellagra that had been conducted in different parts of Kentucky by photographic illustrations.

The State Board is conducting a sanitary campaign in all counties that will help to pay the traveling and other expenses of the commission. In Hart county we are assured that $300 would be an ample appropriation. In conducting these sanitary campaigns in rural counties, dispensaries are established at twelve different points in the county and the people are notified by circulars and newspaper notices when and where to meet.

When the people assemble the commission gives instruction by lectures, receive and examine patients, making microscopic examinations and lastly putting all those afflicted upon treatment. It is a great work and doing a great good, and should receive the approval and assistance of our Fiscal Court and public spirited citizens.

This work is conducted free to the people, the only expense being the purchase of about twenty cents worth of medicine by those who are able, but this is furnished to those who are not able to pay for it.

Before the special lectures an interesting program was rendered by physicians of the county.

J. C. DODSON, Secretary.

Hardin—The Hardin County Medical Society met at Elizabethtown March 13th, with ten members present. There was no program but a number of interesting cases were reported.

J. F. Glasscock reported the use of rheumatism phylacogen in a case of articular rheumatism. Seventy c.c. given in all, at first subcutaneously and later intravenously. There was a typical reaction following each injection but no improvement was noticed.

H. R. Nusz had used erysipelas phylacogen in a case of facial erysipelas, in which the temperature was 104 and pulse 140, accompanied by great prostration and the usual symptoms of erysipelas. Four doses were given subcutaneously and all symptoms subsided the second day after last injection.

Some other experiences with phylacogens were reported and, after discussion, the concensus of opinion was that phylacogens are both of doubtful therapeutic value and dangerous.

It was decided to make more active efforts to enroll as members the physicians who are non-members and those present agreed to aid the Secretary in his efforts.

E. J. STRICKLER, Secretary.

Jefferson—The 199th Stated Meeting of the Jefferson County Medical Society was called to order by the president, Dunning S. Wilson, on Monday evening, February 3, 1913.

Minutes of the previous meeting were read and approved.

The President announced that in the absence of any objection, he would permit Miss Linda Neville to make a short address upon the subject of "Means of Checking the Spread of Preventable Eye Diseases in Kentucky."

There being no further business before the society, the Scientific Program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

1. Gangrenous Extra-uterine Pregnancy with Twisted Pedicle.
2. Strangulated Ovarian Cyst from Twisted Pedicle.
3. Large Gangrenous Submucous Fibroid from Cervical Constriction.
4. Strangulated Umbilical Hernia; Resection of Three Feet of Gangrenous Ilium.

(Exhibition of Specimens.)

Report of Case, by E. S. Allen. Discussion by Simrall Anderson, John R. Wathen, B. J O'Connor, J. K. Freeman, M. Casper, J. Hunter Peak and Geo. A. Hendon.

"What Does the Cystoscope Reveal?" Report of Case, by Geo. H. Day. Discussion by M. Casper, J. Hunter Peak.

ESSAY.

"Eclampsia; With Report of Three Very Unusual Cases," by Edward Speidel. Discussion by W. H. Coleman, W. E. Gary, W. B. Gossett, C. H. Harris, and in closing by Dr. Speidel.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 200th Stated Meeting of the Jefferson County Medical Society was called to order by the president, Dunning S. Wilson, on Monday evening, February 10, 1913.

Minutes of the previous meeting were dispensed with.

Upon motion, Dr. Edward Speidel ordered that the first meeting night in March be set aside for a business meeting of the society.

V. E. Simpson, Chairman of the committee appointed to secure the cooperation of the various business and professional organizations of the city, in an effort to limit service to one telephone system only. Moved by Dr. Speidel that this report be made a special order of business for the Business Meeting on the first Monday night in March. So ordered.

E. F. Horine, for the Editorial Committee, submitted a report concerning contents of the Jefferson County Number of the Kentucky Medical Journal, which is hereto attached.

The secretary presented a communication from Mr. Sampson, Secretary of the Anti-Tuberculosis Association, with reference to the publicity given Dr. Friedman's cure for tuberculosis and asked for an expression of opinion from the society as to the advisability of tuberculosis sufferers attempting to journey to Berlin at this time. Moved by Dr. Gaylord C. Hall, that a committee of three be appointed to go into this matter and report to the society at its next meeting. Seconded and duly carried. The President appointed on this committee Carl J. Weidner, H. J. Farbach, and Bernard J. O'Connor.

The secretary said that he had received communications from the American Medical Association and the Southern Medical Association, concerning the practice of fee-splitting. The President said that without objection, these would be refered to the Judicial Council. So ordered.

Dr. Lindenberger, Chairman of the Library Board, mentioned the fact that a number of Journals were missing from the file in the library, presumably having been borrowed by members who had failed to return them and asked that if any were in the possession of numbers at this time, they be returned at once in order that the volumes might be bound.

There being no further business before the society, the Scientific Program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

''Suprapubic Cystotomy; Report of Case,'' by **C. J. Forsee**. Discussion by Herbert Bronner and J. G. Sherrill.

''Cicatricial Obstruction of Vagina; Cesarean Section; Report of Case,'' by **W. H. Wathen**. Discussion by J. G. Sherrill, W. C. Dugan, and in closing by Dr. Wathen.

ESSAY.

''Vaccine Therapy in Pediatric Practice,'' by **Samuel E. Woody**. Discussion by J. T. Dunn, Wm. Sanders, E. F. Katzmann, H. J. Farbach, and in closing by Dr. Woody.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 201st Stated Meeting of the Jefferson County Medical Society was called to order by the president, Dunning S. Wilson, on Monday evening, February 17th, 1913.

Minutes of the previous meeting were read and approved.

The following applications for membership were presented duly approved by the Judicial Council, and the applicants were unanimously elected:

H. B. Jabbow, James R. Cottell, Walter Cox, Ottis P. Chapman, C. N. Duncan.

UNFINISHED BUSINESS.

Under this head, H. J. Farbach, of the committee appointed to investigate the matter brought up by communication from the Louisville Anti-Tuberculosis Association with reference to the Friedman cure for tuberculosis, submitted as report of that committee, a letter addressed to the association and signed by two members of the committee, copy of which is attached hereto. It was moved by Dr. Sherrill that a report of the committee as rendered by Dr. Farbach, be accepted by the society as its reply to the Louisville Anti-Tuberculosis Association, subject, however, to the approval of Dr. Weidner, Chairman of the Committee, who was not present when the report was drafted. Seconded by Dr. Speidel, and unanimously adopted.

There being no further business before the society, the Scientific Session was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

By permission **M. L. Ravitch**, presented a patient and reported case of ''Pellagra.''

1. Two Interesting Cases of Fibroid Tumor of Uterus.
2. Suture of Brachial Artery; (Report of Cases), by **J. Garland Sherrill**. Discussion by Simrall Anderson, George C. Leachman, J. K. Freeman, Charles Farmer, A. R. Bizot, F. T. Fort, M. Casper, A. D. Willmoth, Edward Speidel, Louis Frank, and in closing by Dr. Sherrill.

''Cesarean Section, With Complete Removal of Uterus, for Obstructing Carcinoma of Cervix; Mother and Child Living; Report of Case'', by **C. B. Spalding**. Discussion by J. G. Sherrill, E. F. Katzmann, Edward Speidel, George C. Leachman; and in closing by Dr. Spalding.

ESSAY.

''Hay Fever,'' by **Dewitt H. H. Wolfe**. Discussion by M. L. Ravitch.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 202nd Stated Meeting of the Jefferson County Medical Society was called to order by the president, Dunning S. Wilson, on Monday evening, February 24th, 1913.

Minutes of the previous meeting were read and approved.

The application of W. E. Fallis, duly approved by the Judicial Council, Dr. Fallis was unanimously elected to membership.

Curran Pope presented a communication from Thomas C. Holloway, of Memphis, Tenn., calling attention to the coming meeting of the Southern Medical Association in the Fall of 1913, at Lexington, Ky., and asking the endorsement of the Association by the Jefferson County Medical Society. Moved by Dr. Pope that this society heartily endorse the Southern Medical Association and the secretary is instructed to forward a copy of this resolution to the secretary of the association. Duly approved and seconded, and unanimously adopted.

The secretary presented a communication from the Treasury Department with reference to examination of candidates for Assistant Surgeon in the service of the United States Public Health Department. Upon motion, duly seconded and carried the secretary was instructmed to post this letter in the library for the information of any members who may be interested.

A communication, addressed to the society by a committee on Red Cross Medical Work of the American Medical Association, asking the society to appoint a local committee cooperating with the national body, was ordered referred to the Executive Committee, with instructions to report, with recommendations, at the Business Meeting of the society to be held on March 3rd.

There being no further business before the society, the Scientific Program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

"Heart Disease; Treatment by Nauheim Baths and Exercise; Report of Case," by **J. Rowan Morrison**. Discussion by Curran Pope, and in closing by Dr. Morrison.

"Removal of Hair-Pin and Calculus from the Bladder of a Young Girl; Report of Case," by **Herbert Bronner**. Discussed by Jno. R. Wathen, George H. Day, W. C. Dugan, R. T. Pirtle, A. D. Willmoth, C. B. Spalding, and in closing by Dr. Bronner.

In connection with this discussion the question of allowing members to report specific cases in the discussion of Clinical Cases and Essays was introduced. It was moved, seconded, and duly carried that such case reports in discussion be not permitted. After some further discussion, Dr. Harris moved a reconsideration, which was seconded by Dr. Simpson and duly carried. Dr. Harry J. Phillips, Vice President took the chair. It was moved by Dr. Pope that in the discussion of cases, reports by members of the Jefferson County Medical Society, they shall not interpulate specific reports of cases of a similar nature, that have occurred in their own practice. Motion was discussed by Drs. Harris, Simpson, Dunning S. Wilson, C. G. Forsee, and unanimously adopted.

ESSAY.

"Tubal Pregnancy," by **S. T. Yeatts.** Discussion by Harry J. Phillips, A. D. Willmoth, Edward Speidel, C. H. Harris, C. W. Hibbitt, W. C. Dugan, John K. Freeman.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The Special Business and Social Meeting was called to order by the President, Dunning S. Wilson, on Monday evening, March 3rd, 1913.

The Secretary submitted to the society a copy of resolution concerning the death of J. T. Dunn, which was duly approved and ordered spread upon the minutes.

The applications of G. E. Mowrer, L. A. Crandell, Joe Henry, and S. Johnson Hall were presented, duly approved by the Judicial Council, and they were unanimously elected to membership.

The President announced that the first order of business would be the consideration of the report of a special telephone committee, appointed sometime since to look into the question of eliminating one telephone service. This report previously submitted by Dr. Simpson, Chairman, was read by the secretary. It was moved and seconded that the report be adopted and its recommendations concurred in. Discussion by Drs. Hall, Simpson and Ravitch. The President ruled that it would require an affirmative vote of three-fourths of the members present to adopt this motion. Upon putting the same it was declared carried.

The President announced that the next order of business would be the election of a member of the Editorial Committee to succeed W. F. Boggess, whose term expires this month. The following names were placed in nomination: W. Barnett Owen, E. B. Richey, A. D. Willmoth. Result of the first ballot was as follows: W. B. Owen, 41; E. B. Richey ,16; A. D. Willmoth, 16. W. B. Owen having received the vote of the majority of members present, was declared elected to serve for a period of three years.

The Executive Committee, by its Chairman, Jno. J. Moren, reported favorably on the letter from the committee on Red Cross Medical Work of the American Medical Association, asking the society to appoint a local committee to cooperate with the national body and recommended that such committee be appointed. Upon motion, duly seconded and carried, the report of the Executive Committee was adopted and the President appointed on this committee, Charles W. Hibbitt, Jno. J. Moren, C. G. Forsee, and in addition the President and Secretary of the society.

The society then adjourned to a buffet luncheon and smoker furnished to the members of the society.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 204th Stated Meeting of the Jefferson County Medical Society was called to order by the president, Dunning S. Wilson, on Monday evening, March 10th, 1913.

Minutes of the previous meeting were read and approved.

There being no further business before the society, the Scientific Program was proceeded with as follows:

A. W. Nickell reported a case of "Facial Paralysis." Discussion by W. A. Jenkins, Milton Board, Louis Frank, J. M. Ray, and in closing by Dr. Nickell.

W. O. Roberts not being present, case to have been reported by him entitled "Pregnant Uterus Complicated by Fibroid," was passed.

"Appendicitis With Report of Fatal Cases," by **E. S. Allen.** Discussion by W. H. Wathen, Simrall Anderson, B. J. O'Connor, C. H. Harris, W. D. Levi, Louis Frank, W. C. Dugan, A. R. Bizot, Guy P. Grigsby, and in closing by Dr. Allen.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Jefferson—The 206th Stated Meeting of the Jefferson County Medical Society was called to order by the president, Dunning S. Wilson, on Monday evening, March 24th, 1913.

Mr. Smith, being sick, minutes of last meeting were not prepared and hence, reading of same dispensed with.

The President read a copy of letter written to Lieut. Jas. Lindren, declining his offer to appear before the society to read a paper on the "Curvature of Spine and Treatment Thereof." Moved by V. E. Simpson and seconded by a number that the action of the President be upheld. Carried.

There being no further business before the society, the Scientific Program was proceeded with as follows:

CLINICAL CASES AND SPECIMENS.

W. C. Dugan reported a case of "Pigmented Sarcoma." Tumor removed from subcutaneous tissues of the leg, about four or five inches below the patella. Patient, a male, aged 26 years.

E. F. Horine reported a case of "Leukemia." Discussion by W. C. Dugan, J. R. Wathen, W. A. Jenkins, F. C. Askenstedt and in closing by Dr. Horine

ESSAY.

"Suppurative Conditions of the Upper Abdomen," by **B. F. Zimmerman,** who also reported several cases of hepatic and sub-phrenic abscesses. Discussion by F. T. Fort, Irvin Abell, W. C. Dugan, J. R. Wathen, and in closing by Dr. Zimmerman.

Adjournment.

A. C. L. PERCEFUL, Secretary.

Knox—The Knox County Medical Society has held ten regular meetings during the past year, with more or less interesting meetings, One especially being of much interest when Dr. A. T. McCormack was with the society. Also Drs. Nuckols and Hendren, of Bell county, who presented some cases of "Pellagra" and gave an interesting description of same. We have had, during the past summer, an extensive campaign against the hookworm of Knox county, with the result that a great many are feeling better than for many years.

I beg leave to make the following report for Knox county: The Knox County Medical Society has a membership of 17, there are 2 doctors, B. F. Tye and J. F. Wilder, doing mine practice in Knox county, but with membership in Whitley county.five doctors, Arthur Jenkins, S. M. Holt, H. L. Biggs, S. E. Crouch, D. F. Smith, have moved from the county. T. G. Vickers reports that he has retired from active practice, with J. E. Anderson not a member of any county society, giving a total of 21 in the county and five having left for other fields of work..

C. L. HEATH, Secretary.

Logan—The Logan County Medical Society house, at 10 o'clock, A. M., March 3, 1913.

The meeting was called to order by Dr. Paul held its regular monthly meeting at the court Beauchamp, president pro tem, as the president or none of the vice presidents were present. The minutes of the last meeting were read and approved.

The Secretary read a letter from Dr. McCormack to the society in regard to the State Association raising its dues from $2.50 to $3.00. After reading the letter the Secretary made a motion that the society pay the $3.00. Motion seconded by J. R. Crittenden. Motion carried unanimously.

J. L. Russell, of Adairville, read the clinical history of a case of Hodgkin's disease, duration of which was two years, and then exhibited the case before the society. Discussed thoroughly by the members.

D. G. Simmons read a paper on "The General Demeanor of the Doctor," which was enjoyed exceedingly by all present.

A. M. Crittenden read a paper on "Pneumonia," which was enjoyed very much by the members and was discussed by all present.

As there were no other papers, the society adjourned.

WALTER BYRNE, Jr., Secretary.

Oldham—The Oldham County Medical Society met on April 3, 1913, at LaGrange, with Vice President Goldsborough in the chair.

A resolution commending the Louisville and Interurban Railroad for their good services in delivering medicines, etc., on passenger cars in times past was adopted, and the authorities were urged to restore this service at once, the same having been discontinued April 1st, 1913.

R. B. Cassady, county health officer, read a most interesting paper on ''Health and Preventive Medicine.''

H. B. Blaydes reported a case of ''Postpartum Sepsis,'' in which mixed serum was used successfully.

A round-table discussion on serum therapy was entered into by Drs. Blaydes, Harbold, Cassady, Goldsborough and Burnett.

A public health meeting, a symposium on ''Public Health,'' is to be held on April 18th, 1913, at 7:30 P. M., in the High School auditorium. Ten representative citizens are on the program. Good musical talent has been secured for the occasion. This promises to be a ''red-letter'' day in the history of the health problem in Oldham county.

Our next meeting is to be May 1st, 1913, our subject, a ''Symposium on Typhoid Fever.''

E. D. BURNETT, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson, in Butler, on Wednesday, March 12, 1913, with the following members present: Drs. Beckett, Brown, Blackerby, Clark, Crain, Daugherty, Ellis, Hopkins, Kendall, McKenney, John E. Wilson, J. Ed Wilson, Woolery, W. H. Yelton, J. A. Caldwell, of Newport, visiting. Dr. Caldwell is one of our old county members and he has not forgotten his old associates. Our society lost one of our best members when he left us, but the Campbell-Kenton Society has gained a splendid member.

This was one of the best meetings our society ever has had, in point of attendance, and enthusiasm, and I believe we will do more good work this year than ever before. We had a report of valuable cases which were fully discussed, and some valuable experiences related. We had some good papers read and discussed at this meeting. The pleasant part is the spirit of enthusiasm entered into by all members present.

For the next six months we will meet in Falmouth, on the second Wednesday in each month.

The society adjourned to meet on the second Wednesday in April.

W. A. McKENNEY, Secretary.

Shelby—The Shelby County Medical Society held its regular monthly meeting March 23, 1913, with the following members present: President S. L. Beard, Lawrence, E. B. Smith, J. N. Smith, F. M. Beard, Harmon, Nash, Adams, Austin, Berryman, Ray, Jesse, Hughes, Yenowine, Hower, Jones and Allen.

Several interesting cases were discussed, among ''Ovarian Cyst,'' weighing 125 pounds, which them being one by **F. M. Ford**, of a case of was successfully removed. One year ago this tumor weighed probably ten pounds, but the lady in question took a year's treatment with the above very apparent results.

Curtis Austin read a paper on ''Pneumonia,'' which was greatly enjoyed by the society and which brought out quite an interesting discussion, participated in by every member present.

The society is in a flourishing condition and bids fair for a prosperous year. It enjoys the distinction of having every practicing physician in the county as a member with all dues paid up for 1913.

W. P. Hughes entertained the society with an elaborate menu that was discussed with as much enthusiasm as any part of the program.

Our program for next meeting is as follows: **J. F. Adams**, ''Typhoid Fever.'' **W. G. Allen**, ''Entero-Colitis in Children; **F. R. Jones** to entertain the society.

The following resolutions were unanimously adopted:

Whereas, an Alwise Providence has called from his earthly labors to his Eternal rest our esteemed friend and colleague, Dr. W. T. Beard. Be it therefore resolved,

First, That the profession and laity of Shelby county have lost an earnest and zealous friend and physician, a man full of years and knowledge whose skill was ever at the service of those who needed it, a man whose calm and genial disposition and ever ready smile went straight to the hearts of all who came in contact with him and inspired in them that confidence and respect which made the entire community his personal friends.

Second, That his family have lost a devoted and tender husband and father, the church a faithful member and the community a respected and upright citizen. Be it resolved, further

That we extend to his family our sincere sympathy and mourn with them over their loss and that a copy of these resolutions be sent to the State JOURNAL and a page in the records of Shelby County Medical Society be set aside to his memory.

W. R. RAY,
CURTIS AUSTIN,
T. J. HOWER,
Committee.

The society adjourned to meet April 17.

W. E. ALLEN, Secretary.

Scott—The Scott County Medical Society met in regular session March 27, R. W. Porter, President pro tem. presiding. Those present were: Herring, of Lexington; Knox, Porter, Barlow, Johnson, Minish, Downs, and Crutchfield.

G. D. Johnson gave a history of a ''Fibroid Removal,'' 9 1-2 pounds. Complete hysterectomy and recovery.

H. G. Herring read a paper on ''Diagnosis and

Surgical Treatment of Appendicitis,'' showing a careful detailed research of this subject.

The program for next month is Dr. Knox, ''Surgical Treatment of the Gall Bladder,'' and Dr. Johnson, ''Surgical Treatment for Fractures of Clavical.''

E. C. BARLOW, Secretary.

Warren—The October meeting of the Warren County Medical Society was held at Shakertown with the Tri-County Medical Society. Those present from Warren were: J. H. Blackburn, Neel, Townsend, Keen, London, F. D. Cartwright, Drake, South.

Salvarsan was the topic of discussion. At the election of officers J. H. Blackburn was re-elected secretary-treasurer; J. L. Neel was elected president, and L. H. South second vice president. Splendid papers were read and a fine dinner was served in the old Shaker dining-room.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held in the City Hall, Wednesday, November 13, 1912, with the following doctors present: W. L. Heizer, Marks, South, Briggs, Rodgers, Drake, Blackburn, Arnold, Souther.

W. P. Drake read a paper on ''Anterior Polio-Myelitis.''

J. F. Rodgers reported three cases and discussed the etiology.

These papers were ably discussed by all present.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held in the City Hall, Wednesday, December 11, 1912, at 1 P. M., with the following doctors present: H. P. Cartwright, W. F. Arnold, A. T. McCormack, J. N. McCormack, Rutherford, Souther, Simmons, Rau, T. W. Stone E. N. Hall, Huddle, South, Rodgers, Helm, Drake, Heizer, Marks.

The following officers were elected: J. H. Souther, President; E. N. Hall, Vice President; E. J. Keen, Second Vice President; L. H. South, Secretary-Treasurer; J. W. Lewis, Delegate to succeed W. C. Simmons, left over, T. W. Stone, Censor; E. J. Keen and J. H. Rodgers, the hold-over censors

J. H. Blackburn was nominated chairman of Committee on Arrangements for the meeting of the Kentucky State Medical Association.

The following resolution was offered and adopted:

''The Warren County Medical Society here assembled, indorses the action of the House of Delegates and the Council in raising the dues from $2.50 to $3.00

''Respectfully submitted,
T. O. Helm,
J. H. BLACKBURN,
Committee.''

T. W. Stone reported on his trip to New York at the Surgical Congress, over 2,600 physicians were present and most of the work was done on the lines of interest to the general practitioner, He had the opportunity of visiting Holt at the Children's Hospital, also of seeing a great deal of work of Whitman in Orthopedic Surgery. A cancer symposium was held in Brooklyn Hospital. Physicians were urged to make an early diagnosis. Mr. Lane, of London, demonstrated bone plating. J. B. Murphy, of Chicago, delivered a stereopticon lecture on bone surgery similar to the one given at the State Medical Association at Paducah. Dr. Childs, of New York Polyclinic, did a great deal of gynecology work.

H. P. Cartwright spoke on ''Anesthetics.''

B. S. Rutherford read a paper which he had prepared for the House of Delegates.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held in the City Hall, Wednesday, January 15, 1913, at 1 P. M. Hight water and bad weather caused the postponement to January 15th. The following doctors were present: H. P. Cartwright, Arnold, Lewis, South, Souther, A. T. McCormack, J. N. McCormack, Townesnd, Helm, Briggs, Rutherford, F. D. Cartwright, Blackburn, Huddle, Rau, W. P. Drake.

F. D. Cartwright opened the meeting with a short talk on ''Salvarsan.'' He had always had good results with the latter and had never used neo-salvarsan, extensively. Recommended that mercury and iodides be continued until Wasserman is negative. Technique of giving ''606'' is very simple, has never cut a vein, always uses a needle. Good literature on the subject accompanies the packages of neosalvarsan, which is less expensive and more readily prepared.

G. E. Huddle gave his experience with enosalvarsan, he preferred giving it in the muscles, thus preventing diarrhea, vomiting and other systemic disturbances, so common from the intravenous injections. Uses the remedy only as an adjunct in the treatment of syphilis.

J. H. Blackburn said the man who knows syphilis and tuberculosis knows how to practice medicine. Syphilis is so common it should be suspected in all cases until proven otherwise. The specific cause was not discovered until 1905, it is an overwhelming infection and must be treated heroically. He reported several cases, one in a child with necrosis of the tibia and skull. The father had syphilis fifteen years previously.

"606" is not always successful because all the spirachoeta are not reached.

W. A. Briggs gives it in eye trouble by stomach in divided doses, usually requiring 6—always on an empty stomach. In treating syphilis gives salvarsan intravenously. Considerable danger is incurred giving it intromuscularly. In large doses there is marked reaction, vomiting, great depression and general systemic disturbances. In skin lesions he gives small doses hypodermatically, with little reaction.

A. T. McCormack had seen one case of necrosis following intravenous injection.Syphilis is a protean disease, an overwhelming, severe infection and requires vigorous treatment. Salvarsan should never be given by mouth on account of oxidation. Erlich and his pupils have never given it by mouth and always recommend it by intravenous or intramuscular injection. Salvarsan is a dangerous drug, a great many deaths have occurred from its use, it should be given in a hospital and the patient required to stay in bed twenty-four hours. Mercurial treatment should be continued at intervals after the administration of "606". In eye affections due to syphilis salvarsan should be given in sufficient dose to re-

No further business the society adjourned.

lieve the syphilis.

L. H. SOUTH, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held in the City Hall, Wednesday, February 12, 1913. Owing to the absence of President J. H. Souther, E. J. Keen, Vice President, presided, the following doctors were present: H. P. Cartwright, Townsend, Huddle, Reardon, Helm, Blackburn, Stone, Freeman, McCormack, White, Arnold, South, Keen, Rutherford Strother W. P. Drake, Rodgers, Adair, Martin, Simmons, Hall.

B. S. Rutherford read a very interesting paper on "Epidemic Cerebro-Spinal Meningitis" which will be published in the JOURNAL.

H. P. Cartwright had not prepared a written paper but spoke from his vast experience of forty years' practice. The epidemic form depends upon a specific organism—we have had epidemics for a number of years—in those days the majority of cases were around saw mills and decayed woods—at those times it was in rural districts more than in city. Typhoid fever in early stage has some prodromal symptoms. To differentiate a lumbar puncture should be made. Meningitis may be due to the pneumococcus, typhoid bacillus, or influenza bacillus. Symptoms are often obscure and easily confused with other diseases. In regard to the treatment, the mortality has decreased since the introduction of the Flexner serum. Has seen several epidemics in the last 40 years. Sporadic cases require a great deal of study.

L. H. South reported one case of recovery from tubercular meningitis, the bacilli were found in the fluid from lumbar puncture.

E. J. Keen has had no experience as there has been no epidemic since he began to practice. When a child there was an epidemic in his neighborhood and it was called spotted fever. Differential diagnosis the most important point in dealing with this disease.

J. N. McCormack said meningitis was reported in six counties; the danger from contagion is great, many well people were carriers, the germs being found in nose and throats. All cases in the State are from counties adjoining each other. In regard to prevention, spraying out nose and throat it becomes an easily preventible disease. The meningo bacterine has been used extensively in Tennessee and Texas but has not proved efficacious and is very expensive. It is not a disease of rural districts, epidemics occur in Boston, New York and Louisville. We want to emphasize the methods of prevention and always attempt to arrest the disease with the first case. Not enough emphasis has been placed on the use of serum treatment. Serum used early enough prevents the exudate.

G. H. Freeman reported a case, boy age 7, violently ill, vomiting, headache, rigidity of muscles, irritable, sick three weeks before consulting physicians. Kernig's sign marked, constipated, never regained consciousness, lived one week.

W. L. Heizer gave the report of the Newport and Covington epidemics. This report has been published in bulletin form by the State Board of Health.

J. H. Blackburn spoke on the "Epidemology" of the disease, the specific cause had not as yet been discovered, and the diagnosis was difficult until paralysis had occurred.

L. H. SOUTH, Secretary.

Pregnancy Toxicosis Cured by Ringer's Solution.—Three cases are reported in which the subjective disturbances, the pruritus, were arrested at once and the objective gradually subsided after an injection of 180 c.c. of Ringer's solution, repeated two days later, in the first case. In the second a single injection of 150 c.c. answered the purpose. In the third 160 c.c. were injected and 190 four days later.

Ringer's solution is a mixture of sodium chlorid 1.8 gm.; calcium chlorid 0.048 gm.; poatssium chlorid 0.084 gm.; sodium bicarbonate 0.0 6gm. and distilled water to 200 c.c.

Irrigoradioscopy of the Colon.—Schwartz illustrates the findings in five cases in which injection of a suspension of bismuth under direct roentgenoscopy instructively revealed stenosis high up in the colon.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 10 MAY 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

A STUDY OF FIFTEEN HUNDRED CASES OF TUBERCULOSIS.

By DUNNING S. WILSON, Louisville.

In presenting this paper for your consideration to-night, I wish to stress the fact that it is not my purpose to draw any conclusions, but the only aim is to summarize our investigations, in order that we may contribute our mite in submitting facts and figures which may prove helpful when added to, or compared with studies made elsewhere.

The work to which I am committed, as well as those associated with me, is to attempt, insofar as our abilities will permit, to assist in throwing around the community in which we live a safeguard against infection by tuberculosis, and to try to teach the people coming under our care how to take care of themselves, and how to prevent others from getting sick. Therefore, we are not in the least concerned in building up a mass of glittering and wonderful statistics showing our "marvelous cures." On the contrary, it is our desire to urge that adequate provision be made for the far advanced case, even to the exclusion, if need be, of the early case. The medical profession can certainly find no fault with a service that has for its prime object the care of such cases of tuberculosis as can neither afford to pay for what they get, nor are able to get well, even though they much desire it.

First, I wish to pass around a copy of the record sheet which we use for every case which comes to the sanitarium. Among other things, it contains spaces for dates of admission and discharge; stage of the disease on admission and the result obtained; weight on admission and discharge, with the gain or loss; temperature, pulse and respiration on admission and discharge; examination of urine on admission, covering albumin, sugar, casts and pus with a space for bacteriological examination; examination of sputum on admission, covering staphylococci, streptococci and pneumococci, with a space for any others that may be found; also a space for sputum and urine examinations on discharge. The blood is examined for red and white cells, hemoglobin and lymphocytes, and it is our aim to make blood examinations as frequently as every three months.

It is deemed advisable to tabulate our cases according to occupation, and out of a total number of 1467 cases we find the occupation to be as follows:

Housework	268
School	119
Laborer	98
Mill or Factory	58
Laundry	55
Tobacco Factory	45
Office Work	40
Cook	34
Carpenter	33
Serving	28
Janitor or Porter	24
Salesmen (or women)	24
Teamsters	19
Farmers	16
Machinists	16

Street-car	15
Painter	15
Tailor	13
Teachers	10
Printers	99
Moulders	99
Barbers	9
Railroaders	9
Nurses	9
Clergymen	7
Peddlers	7
Scrubwomen	6
Plumbers	5
Metal Polishers	5
Cigar-makers	5
Blacksmiths	5
Firemen	5
Telephone Operators	5
Milliners	5
Bartenders	4
Chauffeurs	4
Street-cleaners	4
Policemen	3
Coopers	3
Electricians	3
Collectors	3
Shoemakers	3
Journalists	3
Bakers	3
Distillery	2
Plasterers	2
Bricklayers	2
Millers	2
Actors	2
Lathers	2
Rag-pickers	2
Fruit-dealers	2
Hair-dressers	2
Butchers	2
Trunk-makers	2
Stonemasons	2
Grave-digger	1
Salvation Army Worker	1
Dishwasher	1
Surveyor	1
Dentist	1
Physician	1
Paperer	1
Glassworker	1
Letter-carrier	1
Photographer	1
Fisherman	1
Tinner	1
Miner	1
Jockey	1
Soldier	1
Tanner	1
Pilot	1
Musician	1
Total	1106

HAZLEWOOD.

Housework	105
Office Work	92
School	41
Salesmen (or women)	31
Collectors	14
Nurses	17
Farmers	10
Teachers	10
Machinists	7
Lawyers	3
Milliners	3
Dressmakers	3
Tanners	2
Painters	2
Clergymen	2
Physicians	2
Carpenters	2
Cooks	2
Telephone Operators	2
Plasterer	1
Miner	1
Tinner	1
Fireman	1
Florist	1
Baker	1
Laborer	1
Contractor	1
Dentist	1
Shoemaker	1
Letter-carrier	1
Undertaker	1
Photographer	1
Tailor	1
Civil Engineer	1
Journalist	1
Artist	1
Total	361
Grand Total	1467

It has been interesting to us to note the proportionate number of cases as between males and females, and I was rather surprised to find that, of a total of 1234 cases, 661 were in females and 573 in males, or 88 more cases in females than in males.

We also noted some very interesting facts in conection with hemorrhage, which is a very interesting phase of the subject when considered with respect to the length of time the average patient lives after the initial hemorrhage. I was rather surprised to find that of a total of 1258 cases, only 419, or just 33 1-3 per cent. gave a positive history of hemorrhage.

A careful tabulation was made to determine the length of time the disease had existed, as indicated by the history of the patient that is to say, we took only those cases that died and examined their histories to find when they said the disease had begun, and it was interesting to note that, in 349 cases, the average length of life after the patient had recognized himself (or herself) to be ill, was 2 7-100 years. Let me stress the point that the disease must have existed for some time before sufficient inroads could have been made to impress the patient.

We have tried to keep in touch with our patients after they left the sanitarium, in order to determine what became of them, but naturally this has not been possible in all cases. The following tabulation, however, comprises a sufficient number of cases to indicate the outcome. We have divided the incipient, moderately advanced and far advanced cases in working out these problems, using what is known as the Turban system of classification.

Out of 240 incipient cases, 130 are living; 8 are dead and 102 have been lost sight of.

Out of 546 moderately advanced cases, 194 are living, 77 are dead, and 275 have been lost track of.

Out of 460 far advanced cases, 76 are living, 257 are dead and 127 have been lost sight of.

It will be noted at once that 402 moderately advanced and far advanced ambulatory cases of tuberculosis have, because of many reasons, gone their ways without hindrance, carrying with them sufficient infection to provide a large death rate in the years to come. I have purposely omitted the incipient cases in order to avoid a discussion as to the diagnosis, and have not included the living in the moderately and far-advanced groups, as their whereabouts are known and they are being kept under observation, and at the same time being taught how to protect others.

One of the most fascinating problems which constantly calls for the greatest amount of skill is to, not only make a diagnosis of tuberculosis, but to discover complications which may have a decided bearing on the treatment and prognosis. Therefore, we submit for your attention the following tabulation of complications that we have observed:

Cardiac Disease	22
Syphilis	20
Pelvic Disease	12
Goiter	5
Neuroses	4
Malignant Disease	3
Hernia	3
Lead Poisoning	2
Asthma	2
Insanity	2
Appendicitis	2
Diabetes	2
Hemorrhoids	2
Mastoid Disease	2
Nephritis	1
Locomotor Ataxia	1
Stone in Bladder	1
Pericardial Effusion	1
Enlarged Prostate	1
Hypertrophied spleen and liver	1
Rectal abscess	1
Movable kidney	1
Malaria	1
Scabies	1
	93

It has been customary to believe that glandular or bone tuberculosis is not, as a rule, followed by pulmonary involvement, especially if surgical interference is adopted. This may or may not be true although, undoubtedly, radical surgical procedure at least removes one focus of infection. We have found 20 cases where the glands had been the seat of tuberculous disease, 4 with Pott's disease and 6 with bone tuberculosis, the pulmonary infection coming on later. May I ask that those cases coming under the observation of the profession for bone or gland disease be carefully watched for some years, in order that more definite information along this line may be obtained?

In the light of our present knowldege and belief that glandular and bone tuberculosis in childhood is very largely caused by the bovine type of tubercle bacillus, and the suggestion of Ravenel that, as the result of long residence in the human body, the bovine type may change into the human type of bacillus, it is certainly important that we carry our observations over a number of years before making any definite statements.

Tuberculosis of the larynx was found in 14 cases. While I had promised myself not to draw any conclusions in this paper, I cannot help remarking that the larger one's experience becomes, the more he is impressed with the fact that there is no such thing as primary tuberculosis of the larynx.

Abdominal tuberculosis was found in 4 cases; tuberculosis of the genito-urinary tract in 2 cases, of the pharynx in 1; acute miliary tuberculosis in 1, and pleurisy with effusion in 15.

Our studies up to this point have been confined to those cases examined at the dispensary, and your attention is now directed to some facts obtained from more careful and detailed study and observation of cases in the institutions under our charge, where the patients can be more carefully watched and the findings more accurately recorded and tabulated.

The following statistics are compiled from the records at Waverly Hill Sanitarium:

INCIPIENT CASES.

Apparent cures	20
Arrested	2
Improved	34
Unimproved	26
Died	00
	82

MODERATELY ADVANCED CASES.

Apparent cures	5
Arrested	4
Improved	48
Unimproved	24
Died	1
	82

FAR ADVANCED CASES.

Apparent cures	00
Arrested	00
Improved	24
Unimproved	28
Died	10
	62

I would like to say right here that, at the next meeting of the National Association for the Study and Prevention of Tuberculosis, the term "apparent cure" will probably be eliminated from our list. It is a grossly misleading term and serves only to produce a false impression upon the patient, with the result that the individual leaves the institution and plunges into more or less harmful excesses. It is generally agreed among men throughout the country who are studying the disease that the nearest to a cure that can be obtained by a patient in any institution is properly expressed by the word "arrested," which tends to impress upon the patient the fact that he must be careful in his mode of living in order to avoid a relapse.

The stay of the patient at the institution is all too brief, and until the people realize that tuberculosis, even in its early stage, cannot be cured in less than one and one-half years, no institution can measure up to its full responsibility; namely, care for the far-advanced and cure for the early cases. The average stay at the Waverly Hill Sanatorium has been 120 days, or about four months. Even this short stay, however, does good and helps to teach right methods of living that will eventually make an impression upon the community.

It is the usual thing to lay great stress upon gain in weight, but I am becoming more and more convinced that "the things that are seen are temporal but the things that are unseen are eternal." In other words, gaining weight often lulls the patient into a state of over-confidence regarding his improvement, so that he, or she, imagines the disease present in the lungs is quiescent or cured, and immediately decides that having gained weight, a return to home is wise. In this connection, the following figures are interesting:

Of 76 incipient cases, 3 failed to gain; the average gain for this group was 10 26-100 pounds.

Of 78 moderately advanced cases, 8 failed to gain; average gain for the group, 9 47-100 pounds.

Of 49 far advanced cases, 11 failed to gain; average gain, 7 65-100 pounds.

The difference in the average gain of the far advanced and incipient cases was only about three pounds per patient.

I wish to now direct your attention to a few figures compiled from the records of the Association Sanitorium:

INCIPIENT CASES.

Apparent cures	20
Arrested	5
Improved	26
Unimproved	30
Died	00
	81

MODERATELY ADVANCED CASES.

Apparent cures	17
Arrested	12
Improved	53
Unimproved	48
Died	2
	132

FAR ADVANCED CASES.

Apparent cures	00
Arrested	00
Improved	35
Unimproved	67
Died	2
	104

It is an unfortunate fact that no provision is made at this sanitorium for patients about to die; most of them are removed to their homes prior to death. I hope this unfortunate state of affairs will not exist much longer, because it is our duty to care for these patients and accept the consequences so far as statistics are concerned.

The following figures with reference to gain in weight are also interesting:

Of 71 incipient cases, 13 failed to gain; average gain for this group, 7 88-100 pounds.

Of 114 moderately advanced cases, 18 failed to gain; average gain 8 3-10 pounds.

Of 85 far advanced cases, 36 failed to gain; average gain, 3 1-2 pounds.

Average length of stay as Association Sanitorium, 106 6-10 days, or a little over three months.

I am not going to touch upon the subject of post-mortem examinations, although they are made whenever practicable.

It is our hope, within the next year or two, to present a more extended and comprehensive study of this subject. We have not gone into the treatment with tuberculin, because that is a phase of the subject that requires a whole night in itself. The same is true of examination of the blood. We are endeavoring to establish a routine system of investigation and tabulation so as to avoid error as far as possible. We have made mistakes, and I expect we will continue to make them, although we endeavor by every possible means to eliminate the possibility of error.

DISCUSSION.

Carl Weidner, Sr.: I wish to congratulate Dr. Wilson upon the thorough manner in which this work has been conducted. If the profession of this city is to profit from the work that is being done in these institutions, they must take an interest in it and watch it carefully. I do not believe that any one present to-night doubts that the sanitorium is the proper place for the study of tuberculosis, rather than the clinic or private practice, because of the greater opportunities for observation of patients over long periods of time.

Dr. Wilson also brought out, with proper modesty, the fact that the object of the sanatorium is, not so much the cure, but rather the enlightenment and instruction of these patients as to the mode of living after leaving the institution. A cure is not to be obtained in the three or four month's time that the average patient spends in the sanitorium. I agree with Dr. Wilson that we should discard the term "apparent cure" and use the word "arrested" to describe these cases, and I believe that most of us are now doing this.

I am still a great skeptic in regard to the cure of tuberculosis. I may be criticised for this view, but I believe that when an individual once shows tubercle bacilli in the sputum, they are always present thereafter. They may apparently disappear for a time but they are liable to manifest themselves at any time during the life of the individual. Of course, we know that the disease may be arrested, but it is apt to be revived at any time. I am always very skeptical when I hear any one speak of a cure of this condition. In the reports from various institutions throughout the country, we frequently find reports of "cures" where no mention is made of tubercle bacilli in the sputum. I am not referring to the local sanitoria, which I think should be encouraged in every way. They serve to instruct these patients and thus to a certain extent minimize the danger of infecting others. Unfortunately, however, the cases that are the most dangerous to the community are the ones that are not provided for—the far-advanced cases. There is practically no danger from the individual with incipient tuberculosis, whose sputum does not contain tubercle bacilli. He may eliminate some bacilli through the bowels and through the skin, but as long as there are none in the sputum he does not constitute a menace to the community. On the other hand, the far advanced case is extremely dangerous, and as Dr. Wilson has said, no provision is made for such cases in the sanitoria. The far-advanced case who is sent home to die, with no one to nurse or otherwise care for him, will probably spit around in a careless fashion and infect the whole household. I think this is one feature that is to be regretted, and it should be remedied as soon as possible.

I shall always be glad to hear Dr. Wilson's reports, and I hope that after more extended observation he will be able to tell us a good many things that are not covered in this report.

Curran Pope: I wish to briefly refer to two points. I am quite a careful history-taker and recorder myself, and I can appreciate to the fullest extent the exceedingly accurate and excellent records that Dr. Wilson has exhibited. Therefore, I wish to congratulate Dr. Wilson, not only upon the conduct of the sanitoria, but also upon the great care exercised in compiling these records. It is a comparative record and a future record, and will be worth its weight in silver, if not gold, to Dr. Wilson's succesor. That is the first point.

The second point is that in this country, with few exceptions, it is astonishing how rarely we find the therapy of tuberculosis including certain measures that are unquestionably of great value in these cases. Any one who is even superficially familiar with the work of the German clinicians in chronic tuberculosis, will realize that in hydrotherapy we have a measure of great value, not in curing the tuberculous process, but in increasing the activity of the vital functions, increasing the phagocytic powers of the body, as well as increasing nervous force and strength that comes from the use of cold water. I do not know whether Dr. Wilson or any of the other gentlemen are familiar with the experiments that Dr. Williams, of England, has carried out with the high frequency current in tuberculous infection, but he has obtained some excellent results and so have other workers. I presume that it is the financial handicap that has kept the various sanitoria from taking up these measures, as they require bulky and expensive apparatus and well trained men to prescribe, in order to make them effective.

W. F. Boggess: Two years ago the Jefferson County Medical Society indorsed Dr. Dunning S. Wilson for the position of Superintendent of the local tuberculosis institutions, and assured the Association that they could not get a better man, and the report of 1500 cases of tuberculosis that he has made here to-night, with the magnificent case record he has exhibited, bears out our acumen—our knowledge of the man. (We are all very proud of the fact that we were able to furnish a man who can do the work that Dr. Wilson is doing and will continue to do.

Dr. Wilson's report contains a great deal more than we can grasp from a mere reading of it, and I for one shall read the report when it is printed with a great deal of pleasure.

The statistics from the Waverly Hill institution will, I am sure, compare favorably with those of any sanitorium that does not enjoy the advantage of a better climate than this region offers.

There is one point that I would like to emphasize. Dr. Wilson does not report any miraculous cures at the sanitoria; but rather endeavored to impress upon us that their chief function is the education of these patients. While it is deplorable that the majority of these patients cannot remain there long enough to obtain the full benefit of sanitorium life, still most of them remain theer a sufficient length of time to learn how to live and how to avoid contaminating their fellows.

I agree with Dr. Wilson that the term "cure" should be eliminated. The majority of these cases are simply arrested, and I believe statistics will show that a large percentage of "apparent cures" die of the disease in less than ten years. The patient is lulled into a false sense of security and drops back into his old mode of living, with the result that the disease is revived.

The question of hemorrhage is one that has always given me a great deal of concern and thought. Eighty-five per cent. of cases of hemorrhage of the lungs coming on without apparent cause are either tuberculous or will become so. Therefore, while hemorrhage from the lungs does not necessarily mean tuberculosis, it should excite grave suspicion. I can recall six or eight cases of hemorrhage from the lungs coming on after rapid walking or running, that were diagnosed tuberculosis, and yet I have watched those cases for years and not one of them has shown any evidence of tuberculosis.

If the object of sanitation is to prevent the spread of tuberculosis, provision should be made for the advanced rather than the incipient cases. It is the old chronic case against which the community should be protected, and we should take care of this class of cases in the sanitoria. As a rule these patients are too feeble to take care of their own sputum, and when they are sent home to die it is almost impossible to protect the rest of the family from contamination.

I wish to again compliment the doctor upon his excellent report.

Wm. A. Jenkins: We all recognize, of course, that tuberculosis is at once the most dreadful, the most widespread and the most persistent of all diseases. It has at some time or other been the subject of special investigation in almost every country in the civilized world. It is to institutons such as the ones mentioned in the report made here to-night, that we must look for our rules of conduct, not only in the management of the disease, but in the training of patients to avoid dissemination of the disease.

We all know that it is the "open" case, as the institution man calls it, that is the dangerous one. It matters not whether this "open" case has an open sinus, a bowel infection, or an ordinary ulcerated area in the pulmonary structures; as long as the individual who is subject to tuberculosis has an avenue through which contamination can escape from his body, he is a menace to his friends, his family, or any one with whom he may come in contact. It is in this connection that one of Dr. Wilson's observations is of especial value to those of us in the field; that is, when one of these far-advanced cases leave the institution and is thrown back into the home, he is capable of doing more harm, so far as the contamination of others is concerned, than at any previous time during the course of the disease. It is essential that the patient be cared for at an institution during this important period, and if we can persuade or force the authorities to make proper provision for this class of cases much is to be gained in the way of suppressing the spread of tuberculosis.

Another point is along the line of statistics. Dr. Wilson in his statistics, does not separate the cures and arrests in children, and by "children" I mean in the commonly accepted sense of the word, from two to fitfeen years. I do not know what his observation has been, but I have seen—and other men in the room have seen—a great many children with peri-bronchial thickening, with the glands at the base of the bronchial tree enlarged or engorged, with some elevation of temperature and slight cough, which will improve in the course of a week or two under general tonics, such as strychnin, and other measures directed to improving the quantity and quality of the blood, and they will seem to be all right again, but upon careful physical examination we are able to detect distinct areas of impaired resonance in the chest. They are considered below par and school teachers notice that they have not the normal recitation capacity. Many times in institutions such as Dr. Wilson's, this type of cases, showing no evidence of tubercle bacilli in the sputum, are put down as apparent cures, or arrests. We should not allow ourselves to be lulled into quiet in this class of cases. I have some on hand now that I know absolutely to be tuberculous, and yet they are not open cases. They may run along a year or two, or perhaps several years before becoming open cases, and I think some method of separating this type of cases should be arrived at before we make our statistics general, or else we should issue statistics with reference to children and other statistics with reference to adults, because the disease behaves differently in children and it is bound to lead to confusion if we include children between the ages of two and fifteen in our statistics of arrests and improvements in tuberculosis.

Fritz C. Askenstedt: I was very much impressed by the thoroughness of Dr. Wilson's report. Of the many commendable features of the records there is one that I wish to speak of; that is, examination for indicanuria. It is a fad among many physicians of to-day to put their tuberculous patients on a heavy proteid diet. However, it has been my observation that, with the exception of cancer of the stomach, no class of cases present so large an amount of indicanuria as advanced tuberculous cases. Indicanuria means proteid putrefaction, and I do not think any one here to-night would say that it is advisable to feed such patients a heavy proteid diet. Whether the putrefaction of the food takes place before it is swallowed or after it has been ingested matters very little; both are objectionable. I am convinced that many cases of diarrhoea in tuberculosis are the result simply of too much proteids. Therefore, when indicanuria is marked we should cut down the proteids and be more rational in the diet we prescribe for these patients.

C. H. Harris: It seems to me that one lesson to be learned from the attitude of the physician of to-day towards tuberculosis, is the fact that we are rapidly getting away from the old-fashioned idea that it is necessary to send a man out of this latitude into a supposedly better climate the minute we discover that he has tuberculosis, no matter in what stage, as was the custom when I began to practice medicine. No one seemed to understand just why he sent them away, but we did. Now that we have advanced methods of treating tuberculosis in this climate, we are getting away from the old idea of sending them to another climate. There were three reasons why we sent these patients to other places. We often sent them into the piney woods of North Carolina, with the idea that the atmosphere, being impregnated with the effluvia of the pine trees, was inimical to the growth of the bacilli. Others we sent to higher altitudes, under the impression that they had too much lung tissue for this altitude and that sending them to a higher one, where they would have to breathe more deeply and more often, would be of benefit; that the lungs would likewise, by increased exercise, become more capable of resisting the ravages of the tubercle bacillus. Still others we sent to sections of the country that enjoy a greater number of sunshiny days the year round than in this climate, and this we know had some foundation in fact. However, I think Dr. Wilson's report proves that we can get just as good results in tuberculosis, under advanced methods of treatment, in this climate as anywhere else. The statistics published by tuberculosis sanitoriums in Colorado, for instance, are no better than they are here, when the same general line of treatment is employed.

It is my custom, when I find that a patient has tuberculosis to frankly tell him so, and not deceive him by calling it "bronchial trouble," etc., and immediately begin to teach him how to live. It has been stated by some observers that, if it were possible to absolutely eliminate the danger from the expectoration of tuberculous individuals, in a decade or two tuberculosis would be as nearly obsolete as small-pox. Yet we see every day, in our work, people who have not sense enough to practice the thing that we try to teach them. One thing in particular is the indiscriminate osculation practiced by the people of this country. In my opinion, the interchange of kisses should be confined to the immediate family, and not practiced indiscriminately as is done every day by the average woman especially.

Another thing that is to be condemned is the practice prevalent among the women of to-day, of wearing low-necked and short-sleeved dresses, even in the winter-time. The thing to do is to teach the people how to protect themselves against the sudden changes of temperature so common to this latitude, often causing an illness that paves the way for the entrance and growth of the tubercle bacilli.

J. Rowan Morrison: I wish to congratulate Dr. Wilson upon the thorough and frank report that he has made. He has shown that good work in the treatment of tuberculosis can be done here, but I do not believe the municipal government nor society will ever discharge its full duty to the public in the way of preventing the spread of tuberculosis until provision is made for some place where every tuberculous patient can at least be taken care of. Dr. Wilson's report shows that more than four hundred patients leaving the sanitorium have gone no one knows where, and the good done by keeping them in the sanitorium for a short time and educating them, is nullified to a certain extent when they go back to their homes, amid people who do not understand the necessity of careful methods of living. I believe that it will finally come to the point where all tuberculous patients who cannot care for themselves will be looked after. It is the advanced case that must be cared for if the spread of tuberculosis is to be prevented.

Dunning S. Wilson, (Closing): First, I wish to thank all of the gentlemen who have taken part in the discussion of this report, and to say that, if we can secure the necessary funds by an increase in the tax levy, it is our intention to furnish the new hospital building which has already been erected, with 100 or more beds. This will give us about 48 beds for early cases and 100 or more for advanced cases, which will help to solve the problem to some extent, although we know of at least 300 cases of tuberculosis at the present time that we could put into the institution if we had that many beds.

I should like to see the medical profession of Louisville take advantage of the opportunities afforded them to go through the sanitoria or dispensary at any time. You are always welcome and we would be glad to have you see these cases and offer suggestions in regard to securing satisfactory statistics, etc. It will not only help us, but will give you opportunities for studying the disease.

As Dr. Pope stated in concluding his remarks, it is impossible to carry out the various methods of treatment he recommended, although they would no doubt be very helpful. We insist upon cold sponges in the morning, but have no definite nor systematic method of employing hydrotherapy.

It has been our aim to be as conservative as possible in making this report and not attempt to draw any far-fetched conclusions. The sputum examinations have not been gone into as thoroughly as I should like to have done, but you can readily understand that each day and each month we are endeavoring to improve our diagnostic methods, and a sputum examination is now made in almost every case that comes to the dispensary. We do not pronounce the sputum negative in any case until after a number of examinations have been make.

Dr. Jenkins is correct in regard to statistics about children; they are sometimes very misleading if we judge by the apparent results obtained.

In conclusion, I will say that I am very proud of the nice things that have been said in regard to the work that we have done and are trying to do, and I wish to share them with my assistants, Dr. M. E. Pirkey at one institution, and Dr. E. L. Pirkey and Dr. Otis P. Chapman at the other, who have accorded me valuable assistance in every way.

SUPPURATIVE CONDITIONS OF THE UPPER ABDOMEN.

By B. F. Zimmerman, Louisville.

It is a well-known fact that suppurative processes in the upper abdomen are far more serious and a greater menace to the life of the individual than are similar conditions in the lower abdomen and pelvis. The explanation of this fact may be found in a study of the anatomical relations of structures in this region, which have very important physiological functions.

The stomach, liver with its ducts, and the pancreas, all important digestive organs, lie in this region in close proximity to each other, and have a blood and nerve supply which are very intimate. The liver, in addition to its digestive duties, also acts as a destroyer of poisons elaborated within the body or introduced from without. The pancreas performs a very important part in the assimilation of sugars by means of its internal secretion.

It will readily appear therefore that any serious septic process involving any of these organs would affect not alone the organ assailed but the others as well, and also the great plexus which is located in this region, inducing vasomotor and circulatory disturbances. All of these structures are also in intimate relationship with the diaphragm, and at least one of them—the liver or its ducts—seems to share with it in a common nerve supply. Respiratory disturbances may be looked for. (The intimacy of the nerve supply seems to account for the marked embarassment of respiration in manipulations of the liver and gall bladder under deep anesthesia.)

Absorption takes place slowly in the pelvis but with marked rapidity in the upper abdomen through the activity of absorbents in the peritoneal covering of the diaphragm, and the avidity with which these absorbents take up poisons accounts in a great measure for the pronounced septic symptoms which supervene when suppurative processes exist here. The peritoneal cavity is imperfectly divided into an upper and lower part by the transverse colon with its mesentery and attached omentum. Above this partition are located the organs already mentioned together with a peculiar and distinctive formation of the peritoneum—the lesser sac—closed off and deeply seated behind the stomach. The upper boundary of this space is formed by the diaphragm.

The peritoneal relations of the diaphragm are important in the study of sub-phrenic abscess, and will claim our attention for a moment. "The right side of the diaphragm is completely in contact with other structures without the intervention of peritoneum, except in front of the anterior layer of the right lateral ligament of the liver and for a small part of the right crus corresponding to the Spigelion lobe, which is covered by the posterior layer of the lesser omentum. On the left side a portion of the left crus reaching out as far as the inner edge of the suprarenal capsule and upward as far as the attachment of the gastro-hepatic omentum is covered by peritoneum. The remainder of the left side is covered by peritoneum above and in front of the gastro-hepatic omentum and flexure of the colon only." The peritoneum is very firmly attached to the diaphragm so that retro-peritoneal pus burrowing upward will more easily burst through into the peritoneal cavity than dissect the peritoneum from its attachment to the diaphragm, an explanation of why some extra-peritoneal subphrenic abscesses become intra-peritoneal.

The structures coming in direct contact with the diaphragm are near the middle of the head of the pancreas, the vena cava and the right renal vein separating the right crus from the second portion of the duodenum. Each suprarenal capsule touches the diaphragm above the internal arcuate ligament. The remainder of the right side is in contact with the right lobe of the liver; the left part of the left lobe of the liver; part of the stomach; convex posterior border of the spleen and splenic flexure of the colon; upper posterior surface of the kidney are in contact with the left side. The lymphatics of the diaphragm are of importance also because they are the principal means by which infections travel from the under to the upper surface of this structure, and vice versa.

In point of frequency infection of the bile passages and liver come first. Infection in the gall bladder and ducts is of various degrees of severity. The immediate cause is to be found in bacterial activity. The predisposing cause is usually obstruction by, or irritation from, gall stones, which so lower resistance and otherwise renders the soil suitable for the development of the bacteria. There are cases of non-calculous cholecystitis, but their number is small compared with those where stones are present. The clinical types are: (1) acute gangrenous; (2) subacute; (3) chronic. The gangrenous or phlegmonous type has a sudden onset, with severe pain in the epigastrium, nausea and vomiting, rise of temperature, chills, sweats, tenderness marked, as is also rigidity of the muscle. In short the picture of a severe infection. The entire wall of the gall bladder may become involved with thrombosis of the blood vessels. The inflammation may extend quickly to the peritoneum, or rupture of the gall bladder may occur, with a rapidly fatal general peritonitis. In other cases protective adhesions will form and a localized abscess will result. Early operation is the treatment. Cholecystectomy, partial or complete, depending upon local and general conditions, is the most rational procedure.

In sub-acute suppurative cholecystitis the gall bladder is found distended with thin muco-purulent fluid, which may or may not be tinged with bile. The clinical manifestations are less stormy than in the acute type. There are pain, some nausea and vomiting, tenderness, and usually a gall bladder that can be palpated. The fever is characterized by steep curves—"hepatic fever." The general symptoms of sepsis supervene. Treatment consists in operation with drainage of the gall bladder, or removal of it. Mayo advocates cholecystectomy if there is no involvement of the hepatic duct, and drainage if there is. Relapses may occur, and to avoid the necessity of again opening the abdomen he stitches the gall bladder to the aponeurosis external to the muscle.

Abscess of the liver is either multiple or localized. Multiple abscesses usually result from the arrest in the liver of septic emboli. These emboli (1) frequently have their origin in some lesion of the digestive tract, and reach the liver through the radicals of the portal system. Recal ulcers, infected hemorrhoids, appendicitis, etc., may thus be potent factors in the production of this condition. (2) It may occur as a part of a general pyemic process, the emboli being carried by the hepatic artery. (3) Obstructive cholangitis may also result in this condition. (4) Lymphatic infection may follow various infections, especially appendicitis.

It is an acute process, runs a rapid course, and but little can be done for it. The principal symptoms are chills, fever, pain, moderate enlargement of the liver; emaciation is rapid. If it be due to infection from the bile ducts, and the cause can be recognized, early drainage is indicated. Too often this cannot be done, and the lesion pursues its course under the general features of a pyemia.

Localized abscess is either pyogenic or amebic. The pyogenic usually results from injury or by extension of a peri-hepatic abscess into the liver tissue. Infection of the bile passages also may result in abscess, and the same statement will apply to foreign bodies from the stomach or duodenum. The symptoms are: (1) Fever, variable, subnormal to a few degrees above; chills, fever, sweats. (2) Sepsis, leucocytosis, emaciation, progressive weakness, loss of flesh, toxemia. (3) Enlargement of the liver. (4) Pain. It requires differentiation from: (a) abscess in the base of the lung, (b) encapsulated empyema, (c) rupture of the gall bladder, (d) sub-phrenic abscess.

Thus we have not alone a picture of sepsis, but there is destruction of the liver tissue in these localized abscesses markedly interfering with the function of the liver. Therefore, the picture is that of sepsis plus auto-intoxication. The liver is an exceedingly important organ, especially as regards the role it plays in the disposition of toxic material. Enlargement of the liver is a rather constant sign of localized abscess. Sometimes the liver may be felt below the costal margin, and it may oftentimes be seen that the normal contour of the liver is wanting when the abscess is located in this region. The right lobe is the one usually affected. However, in many cases the central or upper portion of the lobe is involved, in which case the enlargement will be upward and may so encroach upon the diaphragm as to induce irritation giving rise to pulmonary symptoms. I have seen cases in which there was pain referred to the diaphragm, the lung and the pleura on either side, often there appears a pleural exudate, which makes a rather confusing picture and one which is not always easy of recognition. On the other hand, some patients complain of no definite pain, there merely exists a sense of discomfort in the side. In others pain is greater, not very intense but progressive, and as the abscess approaches the surface pain becomes more pronounced. In other words, there supervenes a localized peritonitis, which is always accompanied by pain of a characteristic type.

The contents of these abscesses has received considerable attention. In general it may be said that the contents will depend largely upon the nature of the infection present. The characteristic "liver pus"—the so-called "chocolate-colored" pus—is often seen. In cases where the colon bacilli, the streptococci, and other organisms of that character are the cause, the pus will be thinner, often foul-smelling, and in some cases gas will be present. The cases where the abscess extends upward involving the diaphragm are the ones most difficult of diagnosis. We may have symptoms closely simulating abscess of one of the lobes of the lung, especially when following pneumonia, encapsulated empyema, etc. It is impossible in some cases to make a differential diagnosis. If the abscess is located above or below the diaphragm, in immediate contact therewith, I do not believe it possible to make an absolutely correct and positive diagnosis in all cases, because in some instances even when the abscess is located below the diaphragm it may give rise to lung symptoms, and if above it may induce symptoms referable to the liver. Abscesses of the lung have been mistaken for abscess of the liver, and I have seen lesions of the liver which have been regarded as pulmonary conditions.

Abscess of the pancreas is secondary to acute hemorrhagic pancreatitis, which is an acute necrosis of the parenchyma. A portion of the gland having thus been destroyed and pyogenic organisms gaining entrance abscess results. In the beginning of the attack the symptoms are those of acute pancreatitis. There is often apparent improvement for four or five days after the initial attack, then a return of symptoms in from one week to ten days. The temperature may reach 104 degrees F.; chills, sweats, rapid emaciation, pain and swelling in the epigastrium. Villiar has collected sixty reports of operation; 33 recovered; 20 deaths; 7 results unknown. Of the recovered cases some subsequently died of diabetes; some died months afterward, apparently from exhaustion.

In abscess of the pancreas there is marked disturbance of an organ which is of vast importance in the normal metabolism of the body. Of the patients that recover some later die of diabetes, some of pulmonary tuberculosis and other conditions. Therefore, while the patient may recover from the shock of the operation, the results are not so flattering and gratifying as would at first seem.

Of sub-phrenic abscess Godlee says: "Much has been written upon this subject. It may even be feared that over-refinement of classification and description may lead to confusion of thought and make the question appear more complicated than it really is." A statement that anyone who has studied the literature of this subject will easily verify.

Reverting to anatomical considerations, it will be seen that the abscess may be either intra or extra-peritoneal and that the extra-peritoneal may become intra-peritoneal, by bursting through the peritoneum. In the strict sense, only the intra-peritoneal are considered true subphrenic abscesses. The intra-peritoneal are more common. Neither can occupy the whole dome of the diaphragm on account of the peritoneal and ligamentum attachments. The position of the abscess will depend largely upon the original source of the infection. Out of 288 cases the causes are: Stomach 32.2%, appendix 26%, biliary passages 8%, thorax 3.8%, intestine 3%, peri-hepatic infection 3%, female genitals 3%, pancreas 2%, spleen, 2%, ribs .5%, unknown 5%.

Sub-phrenic abscess of gastric origin, which heads the list as a cause, results from perforation either of a gastric ulcer, or carcinoma of the stomach, usually of the pylorus. In some cases general peritonitis supervenes. Very frequently, however, where the process extends to the surface more slowly localized peritonitis results, and when perforation occurs instead of having general peritonitis we have a sub-phrenic abscess and local peritonitis. The location of the abscess is usually on the left side, as will be seen from the position of the stomach, sometimes there is involvement of the lesser omentum.

The appendix ranks second as a cause. The appendix may be slightly affected, and yet a subphrenic abscess will result. Post-operative sub-phrenic abscesses have resulted after the wound was completely healed, and patient is apparently on the road to recovery. The infection travels from the appendix by one of four routes: (1) Either by direct extension behind the colon through the retro-peritoneal tissues' posterior to the right lobe of thel iver forming an extra-peritoneal sub-phrenic abscess; or (2) the infection may be carried beneath the retro-peritoneal chain of lymphatics upward to the same region giving rise to an abscess in the same position; (3) rarely is passes through the portal vein and may or may not involve the liver and give rise to a sub-phrenic abscess; (4) along the lymphatics which follow the deep epigastric artery to the liver. Sub-phrenic abscess from appendicitis may be intra or extra-peritoneal. When the infection travels through the portal vein or by the lymphatics along the deep epigastric artery, it is intra-peritoneal. In a similar way the location and origin of sub-phrenic abscesses from the other causes may be accounted for.

The contents of a sub-phrenic abscess will depend on the nature of the infection, and whether or not there has been a perforation of a hollow viscus with the escape of some of its contents. Not infrequently we find these abscesses contain, aside from pus, a considerable amount of gas, as was true in one of my cases which I shall report to-night. The gas in some cases undoubtedly originates from perforation of a hollow viscus containing gas. If there is a perforation, for instance, of the stomach, the gas may be due to the escape of gas and undigested and fermenting food particles which are swept into the cavity. In addition we have the presence of organisms which in themselves produce gas. In other cases nothing but pus is found in the abscess cavity.

It will readily be seen, therefore, that it is difficult to give a really intelligent description of the symptoms of sub-phrenic abscesses when they are located in so many different situations, some without and others within the peritoneum, some on the right side and some on the left side. The symptoms oftentimes approximate in the beginning those of abscess of the liver, i.e., there is slight fever, with a tendency to sweating at times, pain may or may not be a prominent factor, there is progressive emaciation, the appetite is destroyed, and in short there is evidence of pus somewhere in the body. Examination of the blood shows leucocytosis, and yet the symptoms are not characteristic, and it may be some time before you are able to determine where this focus of infection is. On the other hand, where there is an intra-peritoneal abscess resulting from perforation through or extension from ulceration in one of the hollow organs, the picture assumes from the beginning a more characteristic attitude. There is acute peritonitis, sudden onset, pronounced pain, collapse, nausea and vomiting, fever, chills sweats, rapid emaciation, etc.

The physical signs are of importance in some cases. There is a pronounced tendency in these cases of sub-phrenic abscess to involvement of the pleura and extension of the infection through this structure. It may occur from metastasis, which is rare; by extension through the lymphatics, which is most common; by direct extension through the diaphragm itself; or there is extension through the retro-peritoneal to the retro-pleural space with involvement of structures back of the pleura and pulmonary complications supervene. The picture is one that requires careful attention before one can arrive at a correct diagnosis. Even when the diagnosis of intra-thoracic trouble has been made, abscess of the liver or sub-phrenic abscess has been found to be the cause. A pleural effusion when the diaphragmatic pleura is involved is very common, and then we have added to the symptoms of trouble beneath the diaphragm, the symptoms and physical signs of a pleurisy with effusion, which often renders the diagnosis difficult.

In abscess of the liver and sub-phrenic abscess there is often a bulging of the lower part of the thorax. In these cases the interspaces are usually not obliterated, and over the prominent area the breath sounds are still heard. In pleurisy with effusion or in empyema there is also a bulging of the lower lateral walls of the thorax. The interspaces, however, are obliterated and the breath sounds disappear. Again, the upper border of the dullness in cases of pleurisy with effusion is more sharply defined and usually extends higher than in cases of abscess of the liver or sub-phrenic abscess. When both conditions are present, that is trouble below and above the diaphragm, the diagnosis becomes extremely problematic so far as the physical signs are concerned. The aspirator can here be used with advantage, and we often find by the use of the needle we are able to secure serum from the pleural cavity and pus from the abscess. Aspiration, however, should not be undertaken where we suspect sub-diaphragmatic or hepatic abscess until all preparations are made for an immediate operation.

In cases of sub-phrenic abscess where gas is present, the physical signs are briefly these: In the erect position pulmonary resonance succeeded by an area of tympany, and beneath this an area of dullness. The position of these percussion notes will be changed upon shifting the position of the patient.

The history of preceding infection, onset of the symptoms, the course of the symptoms, with the physical signs, will in a considerable number of the cases enabled one to make the diagnosis of suppurative process beneath the diaphragm, and the exact location can in the majority of instances be determined. Whether or not it is in the liver or sub-phrenic, is sometimes very difficult and oftentimes quite impossible to determine.

The treatment of sub-phrenic abscess and liver abscess is always surgical and consists in thorough drainage. These abscesses may be drained either across the pleura by section of a rib, or from the diaphragm if the symptoms indicate that the abscess is located in an accessible region, or the combined method may be employed. Untreated these abscesses may rupture into the peritoneal cavity and result in peritonitis, into a hollow viscus, into the pleural cavity, or into the lung in which case the pus is usually expectorated. In some rare cases the abscesses make their way to the surface and rupture through the skin.

With your permission I will mention three or four cases illustrating some of the points which have been brought out, and describe the operations which were done at the time.

G. L., male, aged thirty years, date of observation, October 18th, 1911 operation October 20th. This patient gave the history of having had fever and chills extending over a period of several weeks. When I saw him he was greatly emaciated with a large mass below the right costal margin. Dr. Dugan will recall this case, as he saw the patient with me and assisted in the operation. The abdomen was incised and between a half-gallon and a gallon of pus evacuated from the abscess located in the liver. This was an abscess which pointed downward. It had existed a long time and had led to pronounced emaciation. The operation was most satisfactory, and the patient made a good recovery. He had no fever at time of the operation, and there has been none since.

F. D., male, aged nineteen years, employed as elevator boy. While riding on the elevator he decided that he would leave a package on the floor and jump back into the elevator. In doing so he was caught between the elevator and the floor. The elevator struck him across the abdomen and the floor caught him across the spinal column. He was rendered unconscious and was held there until someone reversed the elevator and extricated him. He was taken to the hospital where he regained consciousness and refused to remain, and was later taken to his home. I saw him that evening about ten o'clock. The abdomen was distended and he was in shock, pulse 130, he was suffering some pain which would have been more severe if the patient had not been in shock. Over the lower part of the abdomen to the left there was distinct dullness. Just what the cause of this dullness was I have never been able to determine. There was marked distension of the upper portion of the abdomen. Following this he developed symptoms of pleurisy, severe pain in the right side, pronounced on coughing, and later every evidince of fluid in the pleural cavity. Aspiration a few days later liberated about a quart of serum. At that time it was supposed that possibly he had some pleuritic involvement from injury to the thorax posteriorly. Shortly there appeared a great accumulation of gas in the epigastrium and the left lobe of the liver was markedly depressed. His temperature was then ranging from 102 degrees F. to 103 degrees F. He was taken to the hospital on December 11th, 1911, and refusing surgical intervention remained only a short time. Exactly one month later (January 11th, 1912) he was again taken to the hospital, but after a short time again improved and still refused operation. He left the hospital on January 18th, and the abscess ruptured on January 25th, six weeks after the injury. He expectorated between a pint and a quart of foul-smelling pus. The abdominal symptoms disappeared, in three weeks his recovery was complete, and he is well to-day.

T. F., male, aged fifty-two years, was taken sick about May 1st, 1912. He gave the history of some "stomach trouble" extending over a long period of time. When taken ill he had pain inthe region of the gall bladder, and it was supposed he had gall bladder infection. He was advised to go to the hospital but refused. Jaundice developed, nausea persisted, he had fever, weakness and emaciation was pronounced. On the 19th of May, three weeks after the onset of his illness, he consented to go to the hospital where an operation was performed, and an abscess of the liver was found which was evidently of bile duct origin. The gall bladder was drained, but contained nothing except some clear vascid fluid, no pus and no infection of the gall bladder whatever. The abscess pointed in the right lobe of the liver. The patient died on May 23rd, a victim of procrastination

C. S., male, aged twenty-six years, was taken sick October 1st, 1912. The symptoms were those of typhoid fever. He went along for about two weeks, even to the middle of the third week, with symptoms exactly like those of typhoid fever, then he had a chill with pain in the right side. Pain was severe at first requiring the administration of morphine. Later it subsided and he had merely a little tenderness. The temperature gradually rose; but in a few days it had declined and it was thought the fever had left him. It was thought to be a case of typhoid fever with slight infection of the gall bladder, as not infrequently happens, then a gradual decline of the temperature as in an ordinary case of typhoid fever. He did not improve, however, and was unable to take nourishment, he grew progressively weaker, although there was but little elevation of temperature, perhaps one degree. Finally the enlargement which had been previously noted in the right side gradually increased in size. He refused operation at first, but finally consented. The site was aspirated, pus was found, the tenth rib was resected, the posterior pleural cavity was crossed without any attempt to suture the layers as usually advocated in these cases, and the abscess cavity was evacuated. This, I think, was a sub-phrenic abscess. The patient was in a very serious condition, and we did not explore carefully at the time of the operation. I believe, however, that it was a sub-phrenic abscess. He had no infection of the pleural cavity following the operation, and made an uncomplicated recovery.

I will say, also, that in another case where we aspirated above, as there were signs of an effusion within the pleural cavity, showed nothing but serum above the diaphragm; but there was an abscess below the diaphragm.

In another case recently observed there was an abscess of the liver; the pleura contained three pints of serum, and the liver contained about a quart of pus.

Both these patients also recovered.

DISCUSSION.

F. T. Fort: Dr. Zimmerman's paper is of especial interest to me, as I believe I was associated with him in two of the cases he has reported. I remember to have practiced aspiration about two weeks before the operation in the fourth case mentioned, the white man aged twenty-six years, the needle being introduced at the sixth interspace. Nothing except serum was obtained at that time. A few days later the patient was again seen, this time with Dr. Zimmerman, a longer aspirator needle was inserted rather deeply in the seventh interspace, and pus was located. Operation the following day revealed the conditions already related by Dr. Zimmerman. He is certainly to be congratulated upon the recovery of these patients. I remember especially that two of them developed fever a day or two after the operation, and it looked as if they would perish; but the fever subsided and thereafter convalescence was uninterupted.

I believe Dr. Zimmerman pursued the proper course in resecting the rib and going through the diaphragm, as there appears less danger of serious complications by following this plan than by other methods of approach.

Irvin Abell: My personal experience induces the belief that sub-phrenic abscesses more often than otherwise owe their development to extension of ulceration of the stomach, disease of the gall bladder, the appendix, or the kidney. When it is remembered that such abscesses are usually secondary to serious lesions involving the important organs and structures mentioned, one can readily appreciate their gravity. Bearing in mind the location of these abscesses, and the serious interference with metabolic processes and the nervous mechanism, etc., which almost necessarily follows, the high mortality which usually accompanies them should not be difficult of understanding. I know of nothing which calls for greater surgical and diagnostic skill than the recognition and treatment of abscesses of this type, to afford the patient the best chance of benefit with the least danger.

We are certainly indebted to Dr. Zimmerman for his clear exposition of the pathology, etiology and treatment of these abscesses.

W. C. Dugan: One thing which should be constantly borne in mind in connection with surgery of the liver is the variation in size of the gall bladder. In some of the cases which run the most rapid course, with high temperature and great constitutional disturbance, naturally a large accumulation of pus is anticipated. Incision in such cases may reveal simply adhesions with a gall bladder not much larger than the phalanx of the finger, which being opened and drained affords relief.

A word as regards the temperature in these cases: I believe Murphy first directed attention to the importance of what he called the "temperature angle in acute cholecystitis, rather than the "temperature curve" hitherto noted, i.e., where there is a decided rise and then a sudden decline to or below normal. Cases of this kind were formerly considered due to malarial infection, and were diagnosed as "malignant malarial fever."

As to leucocytosis: I believe we cannot rely implicitly upon the information afforded by the blood count in these cases; in other words it is not a very valuable aid in diagnosis in the majority of cases, at any rate that has been my experience.

Nearly all the cases of sub-phrenic abscess which have come under my observation have resulted from disease of the stomach, the appendix, and the liver,—none from the kidney so far. I have seen several following operations for appendicitis, one where operation had not been performed, and some following perforation of the lesser omental cavity.

As to the question of aspiration: As I have said on former occasions, I want it recorded that I am distinctly opposed to employment of the aspirator until after the abdomen has been incised. Even after you have introduced an aspirator into a liver abscess, the thick purulent contents such as Dr. Zimmerman has described cannot be successfully evacuated, and abdominal incision becomes necessary. After the liver has been exposed the aspirator may be used if desired, but I want to go on record as being unalterably opposed to using the aspirator until the liver is exposed!

J. R. Wathen: Where it is considered desirable to explore the liver for suspected abscess, I would suggest the employment of a most excellent instrument devised for that purpose by Dr. Ochsner. It is an aspirator needle or trocar one-sixth of an inch or more in diameter with a blunt point which can be safely introduced into the liver without injury to the large blood vessels. With this instrument I am quite sure the pus can be evacuated no matter how thick it may be. The instrument is so constructed that a suction apparatus may be attached thereto if desired, and there is no question about its being successful in operation. I have encountered no difficulty whatever in aspirating liver abscesses with the Ochsner needle or trocar.

B. F. Zimmerman, (Closing): I wish to thank the members for their liberal discussion of my rather incomplete and imperfect paper. I had hoped, however, something more would be said concerning the trans-pleural method of approach in dealing with sub-phrenic abscesses. My experience has been limited to the two cases reported being the only ones in which I have employed this method. The location of the abscess, however, would seem to indicate the route mentioned as the most reasonable course to pursue.

Different writers speak of suturing the layers of the pleura, i.e., where the pleural cavity is not already walled off by adhesions, they advocate suturing the parietal to the diaphragmatic pleura, then opening the abscess through the diaphragm. In my first case this procedure was attempted, but the pleura was so friable that suture was impossible, so I merely packed the cavity with gauze, then opened and evacuated the abscess through the diaphragm. For several days following removal of the gauze packing the man had a very pronounced infection of the pleural cavity and it was feared he would die. In the second case the pleura was disregarded, the abscess being incised and allowed to drain leaving the pleural cavity open, no effort being made to protect it before the abscess was opened. The drainage tube being placed in the most dependent position, evidently no infection of the pleural cavity occurred, and the patient had no trouble. Were I to operate again under similar circumstances, if the layers of the pleura could not be sutured, I would certainly not pack with gauze, but simply cross the pleural cavity to the liver and permit the abscess to darin in this way.

W. C. Dugan: When you incise a sub-phrenic abscess through the high route is any difficulty encountered, in your experience, in getting low enough to not invade the pleural cavity, i.e., to lift the pleura upward out of the way and puncture the diaphragm below it?

B. F. Zimmerman: I believe it will be found that in the majority of cases which are extraperitoneal on the right side proper drainage can be obtained by going below the pleura. In one of the cases reported the patient's condition became precarious under the anesthetic, and the operation had to be quickly completed. The abscess was located three inches or more above the pleural reflection, yet no difficulty was experienced in securing drainage. I believe in the other case the gauze packing, or the separation of resulting adhesions in its removal, caused more trouble than would have occurred had the pleural cavity been left open and a drainage tube inserted. Of course the pleura possesses less power of resistance than the peritoneum, and is a true cavity only when the lung is collapsed; but I believe infectious material will drain therefrom when the tube is placed in the most dependent position, and will cause less trouble than packing with gauze. Moreover, it is a difficult matter to thoroughly pack the pleural cavity.

RENAL AND URETERAL CALCULI.

By Irvin Abell, Louisville.

A consideration of the subject in its entirety would embrace more than the restrictions of the society upon the essayist will permit, consequently the writer will confine his remarks to the diagnosis and treatment of renal and ureteral calculi. The material upon which this paper is based consists of 24 cases, the patients ranging in age from 14 to 58 years. The diagnosis, at times most difficult, can usually be made without exploratory incision, if advantage be taken of the various aids at our command. The lesions most frequently confounded with calculi in the upper urinary tract are those of the kidney, ureter, urinary bladder, gall-bladder, appendix, tube and ovary, and finally, lumbago, whatever that may be. Before the advent of infection the symptoms consist of pain, hematuria, and reflex disturbances, either one of which may be the sole subjective symptom of calculus; after the advent of infection, in addition to the above, the local and urinary signs of a pyelitis or pyelonephritis are present with or without the systemic evidences of intoxication.

Analyzing the histories of my own cases, typical renal colic was present in 17; pain without colic was present in 5; it is this class of cases which furnishes many mistakes in diagnosis, the pain being so frequently attributed to one of the lesions mentioned above. A case in point is the following: male, white, age 35, barber. The history in this case indicated lumbar pain beginning with a single colic at the age of 18. This was treated for lumbago without relief until finally the patient, at that time employed in a drug laboratory, himself began the use of morphine to relieve his distress: this he continued to use until the morphine habit was firmly established, taking eighteen to twenty grains a day. In the early part of 1912 he entered the city hospital and was treated for his morphine habit, claiming to have been cured. In the fall of 1912 he reentered the hospital with the statement that he had been free from morphine for six months but unless his lumbago could be relieved he would surely return to the habit. Careful analysis of his history and the presence of tenderness about the kidney and of microscopic blood in the urine led to the tentative diagnosis of kidney stone. This was confirmed by the X-ray, a single large stone being found imbedded in a calyx of the left kidney. During the 17 years that this stone had existed it had given rise to but one colic, that being the first evidence of its presence. Of the remaining four cases in this group, one had been treated for lumbago, one for chronic appendicitis, one had had the appendix removed, and one had been treated for cholecystitis. Urinary frequency associated with pain or colic was present in 13: in one, urinary frequency was the only subjective symptom: In this class also, mistakes in diagnosis are not infrequent, the urgency of the bladder symptoms being so great as to direct attention to it alone. One such case in this series, presenting a single, large calculus in right kidney had received bladder treatments and irrigations for more than a year.

A careful study of the urine is of much assistance in directing attention to calculi: the most important finding is blood, which is present in varying amounts in over 80 per cent. of all cases. The urine was observed in 21 of this series, blood being found in all; in 5 it was or had been present, in sufficient quantity to be visible to the naked eye, and in 16 its presence was detected by the microscope. Macroscopic blood is suggestive of stone when it appears with or following colic, or when it appears coincidentally with tenderness in the kidney following exercise or jolting. When microscopic in quantity and associated with pain in the upper urinary tract it strongly suggests the presence of calculus. In one case, the hematuria was the most prominent symptom of a large stone in the ureter. The patient, a male, age 42, physician. During August, 1912, patient experienced a rather sharp pain lasting about one hour. This pain he was unable to locate other than in the lower left half of the abdomen and it was attributed by him to a left inguinal hernia. This hernia had been repaired five years before, at which time, he was under ether for a prolonged time. A slight hematuria without pain was noted during his convalescence from the operation but as this disappeared it was attributed by himself and his attendant to the prolonged administration of ether. Nothing occurred to attract his attention to the urinary tract until the attack of pain in Augus of 1912, following which the hematuria did not disappear and while he had no pain other than a discomfort in the old hernial region after prolonged walking or standing, the hematuria chiefly microscopic in character, continued. X-ray examination, showed the presence of a calculus in the deep portion of left pelvic ureter. This stone was removed through a left-sided grid-iron muscle splitting incision, the peritoneum being pushed toward median line until ureter was exposed. Stone was removed through incision directly over it and a piece of rubber tissue employed as a drain. Aside from some disturbances of the bladder and renal pelvis due to the existing infection his recovery had been very satisfactory. The interest of the case centers chiefly on the presence of so large a concretion low down in the ureter with absolutely no history of colic and but moderate pain upon one occasion. It is to my mind clear that this calculus originally came from the kidney in a much smaller size than when found at operation; that its growth had occurred during the long period of lodgment in the lower portion of the ureter, since it is incomprehensible that a stone of this size could traverse the ureter without producing intense colic.

Albumen was present in 11 cases and pus in sufficient quantity to be recognized by the microscope in 10. Primary stones, that is stones formed in kidneys secreting normal urine, give rise to but few adventitious elements, microscopic blood, with or without a trace of albumen following pain or colic being the usual ones: secondary stones, formed in decomposed urine, or primary stones which have indirectly lea to infection of the renal parenchyma, present the urinary signs of a pyelitis, pyleonephritis or a suppurative nephritis. In size, number and composition variation was noted: in 22 the calculi were primary, in 2 secondary: in 17, but one stone was present, in 5, two; in 1, three; and in 1, thirty-two.

The cystoscope and ureteral catheter are indispensible in eliminating vesical disease as a confusing element in the diagnosis and in permitting the acquisition of definite knowledge regarding the functional ability of the respective kidneys and the presence or absence of ureteral obstruction other than those due to calculi. While it is desirable in all cases to demonstrate with the cystoscope the absence of vesical stones and the presence of two functionating kidneys, it is imperative that the functional ability of the opposite kidney be demonstrated when, in the course of calculous disease, the removal of the affected organ is contemplated.

The surest way of recognizing urinary calculi is by means of the X-ray, an analysis of the history with a study of the urine may strongly suggest stone, but a positive confirmation, aside from its removal or passage, can be had only by radiography. A satisfactory skiagram determines several important points: the presence or absence of stones, their size, number and location, permitting us to base our decision, for or against operation, upon definite knowledge: and in the event of the former to plan our attack so as to damage as little tissue as possible and if the latter by repeated exposures to note the progress of the stone down the ureter: it prevents the leaving behind of isolated or separated stone, as well as the recognition of bilateral nephrolithiasis. We know from experience that all stones do not produce symptoms and statistics show a large number of bilateral concretions; it is possible to have disturbance produced on one side with quiesence on the opposite. One such case occurred in this series: female, white, age 29, school teacher, referred to me from Daviess county with the history of repeated attacks of colic, referable to the right side, extending over a period of six years. Physical examination revealed nothing further than a tenderness in the region of the right kidney. Urinalysis showed the presence of albumin and microscopic blood. Skiagraph showed a calculus lodged in the right ureter opposite the tip of the fourth lumbar vertebre. This was removed by an incision over the crest of the ilium. One year later the patient returned giving a history of three attacks of colic referable to the left half of the abdomen. Repeated examinations of the urine showed on two occasions the presence of blood in microscopic amount. No other abnormal finding. Skiagraph, showed small calculus in the ureter. Large quantities of bland water were prescribed with the result that the stone passed shortly thereafter. It is more probable that the calculus in the left ureter was present when patient first came under observation and illustrates the necessity of obtaining satisfactory skiagrams of entire urinary tract. Nineteen of this series were subjected to X-ray examination: in 17 in which the shadow was positive, the diagnosis was further confirmed by operation or passage of stone: in one, in which a series of plates were negative, but which gave a history of colics, hematuria, which presented upon examination a tender right kidney, in the urine from which obtained by ureteral catheterization microscopic blood, pus and crystals were found, exploratory incision revealed a flattened uratic calculus 3-4 inch in diameter. This occurred in 1905 and was doubtless due to imperfect development of radiography and its equipment at that time. With the evolution of the X-ray to its present perfected state of development, satisfactory plates when knowingly interpreted will rarely lead into error. That error, however, is still possible is illustrated by the following experience: a female, white, 19 years of age, gave a history of right-sided colics, referable to lumbar region, the pain radiating to the bladder: urinary frequency accompanied each attack: examination of patient revealed tender kidney with a second degree mobility: analysis of three consecutive specimens of urine collected at intervals of one week showed presence of microscopic blood: skiagrom presented a distinct shadow in lower pole of right kidney: at operation, although kidney was opened and carefully searched, no stone was found: the nephrotomy wound was closed and the kidney anchored. A second skiagram made after recovery shows the same shadow. A report from the patient 8 months after operation states that she, up to that time, had had no further colic. This would seem to indicate that the renal mobility had been responsible for her symptoms but I am at a loss to explain the presence of the shadow shown on three plates made at different times following free purgation.

In the following unusually interesting case the skiagram revealed marked renal enlargement but failed to show the calculi on account of their miscroscopic size: male, white, butcher, family history negative. Patient had suffered at intervals for five years with calics in the right half of his abdomen. These colics in the right half of his abdomen. These During the intervals between attacks he was perfectly comfortable and attended daily to his work. I saw him in 1912 after he had been in an attack for three days. His pain had been controlled by opiates, temperature was normal, pulse 90, abdomen distended with gas and tender over entire upper urinary tract and appendiceal region. Examination of urine showed microscopic blood and a tentative diagnosis of renal calculus was made. He was X-rayed but no stone was found, the kidney plate, however, disclosed a rather markedly enlarged renal shadow. At this time, twenty-four hours after I had first seen him, the severe pain recurred and with it a profuse right renal hematuria which persisted for forty-eight hours. At operation, the appendix, while not showing material evidence of disease, was removed through right rectus incision. Palpation of both kidneys through this incision showed the left to be normal in size and the right between two and three times the normal size. The right rectus incision was closed and the kidney exposed through a lumbar incision. The fatty capsule showed material thickening and did not separate easily. The kidney, very materially enlarged, was delivered through the wound for examination. It was rather firmer than the normal but no calculus could be felt: it was then incised along its convex border, the incision extending to hilum: there was little or no pelvis present, the collecting tubules entering at the hilum into the ureter without noticeable pelvic cavity. The mucosa lining these tubules, where visible, was distinctly haemorrhagic. I did not appreciate the pathology and following largely the urging of the patient's brother, a physician, I removed the kidney. Examination of the kidney by Dr. Allen showed numerous microscopic cysts containing small, apparently, uric acid gravel. The entire parenchyma of the kidney was engorged and haemorrhagic, with granulation tissue in tubules emptying into calices. The upper pole of kidney seemed most involved, with hemorrhages into many of the tubules.

In 6 cases the stone was expellled through natural channels: in 2 of these the expulsion occurred during the initial attack of colic, consequently were not radiographed: in the remaining 4 the skiagrams revealed the stones in the ureter, in 3 of which on account of the small size of the concretions, expectant treatment was pursued until the subsequent passage of the calculi: in the fourth case the skiagram revealed 2 rather large calculi in left ureter at a point corresponding to the pelvic brim: operation was advised and refused: these calculi were later removed from the penile urethra, an interval of several weeks elapsing between the impaction of each at this point. It is interesting to note the possibility of concretions, sufficiently large to obstruct the lumen of the urethra, successfully traversing the ureter.

Of the 18 cases subjected to operation, the calculi were removed from the kidney in 8 instances and from the ureter in 6; the kidney was enucleated in 3 and in 1 a perirenal abscess, secondary to calculous disease, was drained: in this latter case, the patient steadfastly refused further operative measures, finally, after six months, succumbing to a perforation of the abscess into the lung, the only fatal termination in the series. The renal calculi were all removed through an incision in the convex border of the kidney: of the ureteral calculi, two were situated above the pelvic brim and were approached through incisions paralleling the crest of the ilium: of the 4 in the pelvic portion of the ureter, 2 situated near the bladder were removed through grid-iron incisions below McBurney's point, and 2, situated just below the pelvic brim, were reached through incisions paralleling the crest of the ilium and Paupart's ligament.

CONCLUSIONS.

The diagnosis is to be made by analysis of patients' history, a study of the urine, and the use of the cystoscope, ureteral catheter and X-ray: the exposures to the latter should be preceded by a proper preparation of the patient and should include the entire upper urinary tract. In cases in which the function of one or both kidneys has been impaired, a careful study of the separate kidney urines with a determination of the renal efficiency is absolutely essential: especially is this true when nephrectomy is under consideration.

Primary stones, small enough to permit of traversing natural channels, are to be kept under X-ray observation at regular intervals until passed: abundant diuresis will hasten their passage: when impacted in ureters it is often possible to dislodge them with the ureteral catheter, and their expulsion may be facilitated by the injection of olive oil into ureter. Large primary stones should always be removed by appropriate operation; even in the absence of distress their presence constitutes a menace from possible obstruction, infection, and anuria.

Secondary stones of any size should be removed with coincident correction of the predisposing cause.

DISCUSSION.

C. B. Spalding: .I wish to express my appreciation of this very excellent paper and all that it means especially to the younger members of the society, like myself, whose experience is necessarily limited. Perhaps I can appreciate better than anyone else the splendid technique with which Dr. Abell is accustomed to removing these stones, as most of the experience I have had has been with Dr. Abell and it has served me in good stead. I am familiar with many of the cases he mentioned.

First, with reference to the method of removal. The technique, as outlined by Dr. Abell in a rather rapid manner, may seem to be easy and, as a matter of fact, in a thin person, it is a comparatively easy matter to go through a lumbar incision, approach the kidney and upper portion of the ureter, but in a short, thick, fat person; like one case that he mentioned, it is almost impossible to approach the kidney. If I remember correctly, in that case the space between the crest of the ilium and the ilium was not more than half an inch or an inch wide. The patient was enormously fat, which made the case a very difficult one to handle.

In stones in the ureter, some distance from the kidney, the ideal method of approach is through a grid-iron incision, shoving the peritoneum forward without approaching the kidney at all, unless there is sufficient infection present to make it necessary. The peritoneum can be easily pushed forward, unless there is considerable intraperitoneal inflammation, due to appendicitis, adherent gut, etc.; and the ureter exposed.

An excellent procedure that Dr. Abell frequently carries out(but which he did not mention in the paper) is to introduce an ureteral catheter up to the site of the stone prior to operation, which acts as a guide to the ureter and enables the operator to locate the stone without unnecessary handling of the fatty substance between the peritoneum and muscles. The less tissue we handle and the less fat we macerate with the fingers or instruments, the less chance of infection there is.

In regard to the case where the stone was in the ureter, deep down in the pelvis; while I may perhaps be somewhat partial to the operator's technique and methods, still I think I can truthfully say that I have never seen an operation more beautifully or skilfully performed. The approach to that stone, in the deep part of the pelvis, over the iliac artery and through a narrow space (which had to be narrow because of the fact that there was a hernia below which had to be repaired subsequently, and it was desirable not to damage the tissues any more than necessary) was an exceedingly difficult procedure. The stone in the ureter was right over the iliac artery which was pumping up into the field. The stone was as large as a bird's egg, and the ureter was ulcerated, so you can appreciate the fact that it was a very difficult proposition. I think Dr. Abell is to be especially congratulated upon the outcome of this case.

In conclusion, I wish to again compliment Dr. Abell upon his diagnosis and technique. I believe in his later work he has been using the grid-iron incision for approaching these stones altogether, instead of the crest of the ilium incision. If the older men would be as kind to the younger members of the profession as Dr. Abell is, and give us the benefit of their vast experience, we would all be greatly benefitted.

George H. Day: I wish to emphasize the point brought out by the essayist in regard to the use of the ureteral catheter in the presence of small stones. Oftentimes, in such cases, if we will introduce an ureteral catheter, the symptoms will subside and the patient will pass the stones.

Dr. Abell also mentioned the fact that sometimes the stone will come down the ureter and lodge in the urethra often protruding into the bladder.

I notice that Dr. Bransford Lewis has reported several hundred cases in which he has removed enormous stones from the ureter by means of a catheter and other instruments that he has devised.

Herbert Bronner: "I can only accentuate a few of the points that Dr. Abell has brought out in his very complete paper.

The statistics he has given correspond very closely to those gathered by other observers. The records of the Massachusetts General Hospital show that in only 54 per cent of cases was there a history of renal colic, and that in at least ten per cent. of cases there was no history of pain at all. This shows that pain cannot be absolutely relied upon as a diagnostic feature of renal calculus.

Dr. Abell brought out the point that, microscopically, red blood cells are almost always to be found at some time in the history of renal calculus.

Just a few words in regard to the cystoscope as an aid in the diagnosis. We know that in some cases of renal calculus even where there is a typical history, radiography will not reveal a shadow of the stone, and in such cases we can often confirm the diagnosis by the introduction of a ureteral catheter, demonstrating an obstruction. The same is true in cases where we get a shadow about which we are uncertain. The catheter may be inserted and another radiograph made, and if the shadow of the suspected stone and that of the catheter coincide as to location, we can feel absolutely certain that we are dealing with a calculus.

In those cases where the calculus is in the vesical portion of the ureter(which occurs in about thirty per cent. of cases) the findings by means of cystoscopy are characteristic. The corresponding portion of the ureteral ridge is always deeply injected and oedematous, and the ureteral meatus is so oedematous that often we are unable to insert a ureteral catheter. This, taken in conjunction with the history of the case, is often sufficient to establish the diagnosis.

I have enjoyed the paper very much indeed.

H. J. Farbach: I have very much enjoyed the report of these cases by Dr. Abell.

One symptom of renal calculi that I have noticed is an increase in the frequency and amount of urination. Many of these patients will give little or no history of renal colic or pain.

One little procedure that I have found to be a great aid in cystoscopic work, especially in the female, is to tip the ureteral catheter with wax. Many times in introducing an ureteral catheter we meet an obstruction, and it is a question whether or not it is a stone. If the catheter is tipped with white wax, upon removing it the scratches on the wax will indicate whether it is a stone or some other obstruction.

A. D. Willmoth: This class of cases is interesting to every one, and especially to the general surgeon. There are just a few points that I would like to speak to.

First, in regard to radiographing these cases, there is one suggestion I wish to make; that is, in having a radiograph made, if you will suggest the use of an imported plate rather than one of American make, the result will be a much better and more distinct picture than ninety-nine out of a hundred places that we ordinarily get. There is as much difference as between the amateur's photograph and that of the experienced photographer.

The next point is in regard to anuria. We know now that in nearly every case with complete anuria, we have a double stone to deal with, just as in the case Dr. Abell reported, where one side was radiographed and operated upon, and in a few months the patient returned with the same condition on the other side. This proves that so-called sympathetic anuria, as we called it at one time, occurs in very few instances.

The question of the method of removal is of especial importance to the man who does the operative work. If we have a thin patient, the technique is comparatively easy; if we have a stone in the lower portion of the urethra in a fleshy patient, it is a very difficult proposition. If the patient is in the country where a radiograph cannot be obtained, the fact should be borne in mind that these stones, as a rule, are located in one of three places. They most frequently lodge (1) just outside of the kidney in that portion of the ureter which is more or less dilated; or (2) just at the iliac artery; or (3) just above the bladder. However, when the patient is located where the advantage of a radiograph can be obtained, no man is justified in operating for suspected stone in the kidney without it, in order to accurately determine just where the stone is located.

D. Y. Keith: Dr. Abell referred to the preparation of the patient. One thing that is essential in making a good radiograph is thorough purgation. In many of these cases we find the abdomen filled with gas, and in such patients the proper thing to do is to give an enema. I do not propose to make any more pictures until after the patient has had an enema and eliminated the gas. If sufficient gas is not eliminated to insure a good plate, it is better for the patient to defer making the radiagraph until another day.

Dr. Willmoth stated that the imported plates make a much better picture than those of American make. I think I have seen prettiest radiographs from plates of American manufacture than from the imported ones. One plate in particular, which is of English make, shows more detail than any other plate I have used, and it is faster. However, so far as the results are concerned, if one has a quick machine, and can take the picture while the patient is in inspiration, or holding the breath after expiration, there is not much difference. Some plates are too slow; one that I made recently showed a double shadow due to the movement of the patient, but a plate made later showed only one stone.

In such cases as Dr. Abell mentioned, where the radiograph showed a shadow prior to operation, and again after operation, although no stone was found, there is one point to be borne in mind. In the first place, stone does not usually occur in this region—that is, opposite the transverse process of the first lumbar. A calcareous gland, or a calcareous deposit in some of the veins will often show a shadow. I would like to ask Dr. Abell whether, in this case, the pelvis of the kidney and the upper portion of the ureter were very much hardened or cartilaginous in character, such as would be likely to throw a shadow?

Jno. W. Price: I congratulate Dr. Abell upon the diagnosis he was able to make in each of these cases, and upon the thoroughness with which he has reported them.

One means by which the diagnosis may be established when the skiagraph is negative, which was not mentioned by Dr. Abell, is the use of indigo-carmine to determine the efficiency of the kidney. The technique is very simple and it is not necessary to employ catheterization of the ureter.

One complication of renal calculi has been noted by a classmate of mine, which I think is original. He had a patient who was operated upon for stone in the kidney, but the symptoms continued after the operation. The gentleman of whom I speak is an orthopedist, and after making an examination of the patient he suggested that the vertebral colume be X-rayed, which was done. The plate showed an arthritis deformans of the vertebral column, the shadows being similar to those obtained in a like condition of the small joints of the fingers.

The most constant symptom of renal calculus, in our experience, has been haematuria, and I believe Dr. Abell stated that it was constant in all of his cases.

Irvin Abell, (Closing): In answer to Dr. Keith, I will say that, to the naked eye, there was no hardening of the ureter or kidney in the case he referred to. My own explanation in that particular case was that the shadow was caused by a calcareous gland. Bearing in mind that the shadow had been opposite the terminal process of the first lumbar, I carefully examined every exposed part, but was unable to detect anything that might have caused the shadow. Thorough purgation had been carried out before the radiograph was made, thus excluding any intestinal concretion. Whatever it was, it was unquestionably fixed.

I wish to thank the gentlemen who have taken part in the discussion of the paper, and to say that I do not believe we have reached the end of our diagnostic measures in these cases until we have used the ureteral catheter, teh injection of protargol and subsequent X-ray picture.

CLINICAL CASES.

BLOOD PRESSURE IN PREGNANCY.

(REPORT OF READINGS).

By J. B. LUKINS, Louisville.

Almost a hundred years ago physicians recognized the value of blood pressure as an aid in diagnosis and prognosis and efforts were made to devise some means to ascertain it. The earliest history obtainable is that in 1828 Poisnelle used an instrument called the manometer. Then a few years later the plan of placing metal weights over the radial artery at the wrist was tried. These methds were all crude and of course inaccurate.

Following these first attempts many instruments were devised for taking the blood pressure and while the practice became more or less general it is only in the last few years that the profession has been impressed with its real importance. All large life insurance companies now demand that the blood pressure be taken if the applicant is 40 years of age or over, regardless of the amount of insurance applied for.

This fact alone should be sufficient evidence of the great value of the knowledge of the blood pressure as an aid in making a diagnosis and prognosis.

The purpose of this brief report is to show the importance of blood pressure readings in every case of pregnancy and to aid in a more accurate determination of the physiological limit.

There is a gradual and normal increase of the blood pressure in every case of pregnancy from the third month up to full term. We have been told that anything up to 150 m.m. of mercury is normal. For over two years I have been telling the students of the University of Louisville to take the blood pressure in every case of pregnancy, especially primipara, and if it was found to be 140 or over to look out for albumen in the urine and other signs and symptoms of a toxemia.

This record, which has been carefully kept, covers a series of 48 cases and bears out the accuracy of the above statement. Of the 48 pregnant women, 26 were primiparae and 22 multiparae. Their ages ranged from 16 to 36.

With two exceptions the tests were made in the latter half of pregnancy. The lowest blood pressure was 118, the highest 207.

With one exception, in every case in which the blood pressure was found to be as high as 140, albumen was found in the urine and the patient showed in some degree such symptoms as headache, blurred vision, oedema of the ankles and gastric disturbances.

There were seven such cases in the 48. The one exception was the oldest woman in the series, age 36, had had seven children and was a woman who had always worked very hard, these facts accounting for some hardness of her arteries, showing a pressure of 142.

The case with blood pressure of 207 was an extreme case of toxemia of pregnancy or pre-eclamptic conditions and the blood pressure readings taken were found to be the most reliable index to the patient's condition. Gradual reduction of the blood pressure was definitely noted as the patient improved though there was scarcely any appreciable change in the amount of albumen in the urine.

A primipara, age 28, with blood pressure 135 showed albumen and slight toxic symptoms and miscarried at six months. Another with a blood pressure of 138 complained of malaise and headache, but was relieved by treatment and blood pressure lowered.

These strengthen, somewhat, the belief that even as low as 135 may prove to be the physiological limit. Not a single case with a blood pressure below 135 ever needed a doctor's attention throughout pregnancy.

Every woman with a pressure of 135 or over was put on a more or less restricted diet, with elimination by the bowels and the response by way of the lowered pressure was prompt and definite.

Forty-eight cases is, of course, not a sufficient number on which to base an absolute statement but straws show which way the wind blows and from a study of these readings I am convinced of the following points:

1st. That blood pressure readings are of sufficient importance to be used as a routine measure, at intervals just as urinalysis, in our care of pregnant women.

2nd. That while some women may have a pressure of 150 or over and be perfectly normal, we should be on our guard if it is 135 and increasing.

3rd. That it is one of the very earliest signs of a beginning toxaemia and,

Lastly, it is probably the most reliable means we have of determining whether or not a severe case of toxaemia or a case of eclampsia is improving.

DISCUSSION.

W. F. Boggess: Dr. Lukins has given us a practical and complete resume of a subject which is of no little importance, and he has gathered sufficient statistics to justify the conclusions reached. I am a great believer in blood pressure estimation and all that it teaches us. We have a great deal to learn in regard to correctly interpreting blood pressure readings, and we should not attempt to lay down a hard and fast rule as to what is the normal or abnormal blood pressure. The individual's mode of living should be considered in determining what is the normal blood pressure in a given case. A blood pressure of 140 may be normal in one woman while in another it may be considerably above the normal.

I believe that in pregnant women information of great value may oftentimes be obtained by systematically taking the blood pressure, and as Dr. Lukins has stated, we can often lower a high blood pressure by proper attention to diet, hygiene and elimination, thus saving our patient the ill effects of a toxaemia and ourselves a great deal of worry during the latter months of pregnancy.

Edward Speidel: I think Dr. Lukins has presented some very valuable data in connection with pregnancy, and I am heartily in accord with the opinion of Dr. Boggess that the blood pressure should be taken in every case; in fact, I believe it will soon be considered as important to regularly take the blood pressure of a pregnant woman as to examine the urine.

It strikes me that it would be of value to know the blood pressure of the woman before impregnation took place, especially where we have a patient with an extremely high blood pressure that persists for months, even after delivery of the child, as in a case that I have under observation at the present time.

Contrary to Dr. Lukins' experience, only recently I have seen three or four pregnant women with marked albuminuria, in whom the blood pressure was low instead of high—that is, it was below 135.

I think that the blood pressure as an aid in the diagnosis of the toxaemia of pregnancy is of especial value in that peculiar and most dangerous form of toxaemia in which the urine does not show albumin. In this form a high blood pressure is often the first indication of the trouble, and this, in connection with the eye symptoms which follow, will often prove of value in cases where the urinary findings are absolutely negative.

E. S. Allen: The question of blood pressure is one of a great deal of interest in fields other than obstetrics, but is, perhaps, of especial interest in the latter field.

We know that any toxin acts first as an irritant and a stimulant to the muscle fibres, and this is what causes the increase in blood pressure in the toxaemia of pregnancy. The muscle fibres are irritated by some toxin, whether a metabolic substance of intrauterine origin, a toxic material of intestinal origin, or whatever its source, and probably the vasomotor center is stimulated, causing a stronger arterial contraction. As this irritation continues the muscle becomes more and more overworked, so to speak, until finally its eliminative apparatus fails to carry off the toxin. and we have an accumulation of a toxic metabolic substance in the muscle cells which so intoxicates the muscle as to interfere with its responsiveness to nerve stimulus. We know that in the toxaemia of pregnancy we have some toxic product irritating the muscle fibres, and if we can detect this early, by means of the sphygmomanometer, before the muscle has become paralyzed, we can anticipate and avoid a great deal of trouble by instituting proper measures for the elimination of the toxic material.

J. B. Lukins, (Closing): I would like to emphasize one point that was brought out in the report; namely, that blood pressure readings are of especial value in aiding us to determine whether or not our patient is improving. We cannot always tell, from the subjective symptoms and the amount of albumen in the urine from day to day, whether or not the patient is improving, and I believe the blood pressure is our most reliable guide in that respect. If the blood pressure is lowered from day to day we can feel pretty safe in continuing the line of treatment we have adopted.

MYELOID LEUKEMIA.

(REPORT OF CASE.)

By Emmet F. Horine, Louisville.

Case of Mrs. U., aged 38, American, referred to me by Dr. Jno. R. Wathen for blood examination, Aug. 9, 1912.

FAMILY HISTORY.

Father living, aged 62 and in excellent health. Mother died at age of 40 of acute enteritis. Has three brothers living, all in perfect health. Patient had one sister who died of acute appendicitis, age 32.

PREVIOUS ILLNESSES.

Acute exanthemata of childhood. For the past five years she has suffered from acute enteritis for a few weeks during each summer.

PRESENT ILLNESS.

Patient had been nervous since January but one month ago, she noticed that she was more nervous than usual and coincident with the increased nervous symptoms, an uncontrollable diarrhea began. She now noticed that she was becoming weak very rapidly. No menstruation since last November and she wonders if she is passing the menopause. She complains of general abdominal pain; no appetite; insomnia; profuse perspiration and great thirst. present weight, 130 pounds.

OBJECTIVE SYMPTOMS.

A woman presenting a peculiar pallor and very much emaciated. Pulse 120, temperature 100, respiration 22, blood-pressure 124 mm. Hg. Nothing abnormal about head, neck, chest or extremities. The abdomen shows an area of dullness extending from the ensiform cartilage above to the pelvic brim below and from the left flank to the right of the median line. The left half of the abdomen was prominent and a hard mass could be easily palpated. The mass presented a notch occupying a position slightly to the right of the umbilicus.

The urine was negative both as to albumin and glucose. Examination of the blood showed: Hemoglobin, 25 per cent.; red cells, 2,328,000; white cells, 259,200. The differential count showed: polymorphonuclear neutrophiles, 53.7 per cent.; lymphocytes, 1.5 per cent.; transitional forms, 1.6 per cent.; eosinophiles, 2.2 per cent.; basophiles, 3.3. per cent.; myelocytes, 37.7 per cent. Two normoblasts were observed while making the differential count.

DIAGNOSIS.

Myeloid leukemia. The prognosis in this cent.; transitional forms, 1.6 per cent.; eosinoated condition of the patient, the temperature and the persistent diarrhea. The patient gradually grew weaker after returning home and died one month later.

TREATMENT.

In the past there were no remedies known which exerted a curative effect in leukemia. Arsenic in some form was given and in certain cases it seemed to act favorably. The X-ray has favorably influenced a great number of cases and has apparently acted curatively in a few cases.

At the present time benzol seems to be of considerable value in the treatment of leukische Wochenschrift (vol. XLIX, No. 29) first reported the use of benzol in leukemia. He claims to have had no failures under the benzol treatment of chronic leukemia.

Benzol (benzene or benzole) was discovered by Faraday in 1825. It is a colourless, limpid liquid having a characteristic odor and is obtained from distillation of coal-tar. It is only slightly soluble in water, rather more soluble in alcohol; and it is completely miscible with ether, acetic acid and carbon bisulphide. The daily dosage in the treatment of leukemia as employed by von Koranyi is between one-half and one dram. It is administered in capsules after meals in ten to fifteen minim doses. Repeated examination of the blood must be made while the benzene is being administered because if it is given for too long a time an aplastic anemia may be produced which will result fatally as surely as the untreated leukemia would have resulted fatally.

Unfortunately in the case reported, benzol was not used because at that time von Koranyi had just published his report in Germany and nothing was known about it in this country.

DISCUSSION.

B. J. O'Connor: The case reported undoubtedly represents one of the acute (fulminating) type of myeloid leukemia, which is rather unusual as leukemia is nearly always observed as a chronic affection. In the majority of instances a correct diagnosis is not made until the disease has reached the stage where little may be expected from any method of treatment. As a matter of fact, it not infrequently happens that the disease remains unrecognized until the spleen has assured dimensions such as described by Dr. Horine. The marked anemia which was present in this case is also unusual considering the short duration of the symptoms.

It is certainly gratifying to be informed that beneficial results may be expected to accrue from the administration of benzol in the treatment of leukemia. Arsenic and other drugs and combinations hitherto recommended have accomplished little more than bring about temporary remissions, and while the X-ray has been advocated and utilized by various observers, most likely it has been no more successful than other methods of treatment. Credit has often been given to measures of this kind, when they really had little to do with the ultimate result.

The picture presented by the blood examination in this case is practically typical of all cases of myeloid leukemia. There is always a marked increase in the polymorphonuclear cells with diminution of the lymphocytes, the total usually remaining the same. The preponderance of myelocytes simply indicates degenerative change in the bone marrow which practically always occurs in leukemia.

W. C. Dugan: I would like to have Dr. Horine in closing the discussion to explain one feature in connection with myeloid leukemia if any explanation can be offered, viz., I believe it is a fact that in the majority of instances leukemia develops in the robust member of the family, the delicate always escaping. At any rate this has been my experience in these cases.

I am glad to note from the report of Dr. Horine that there now appears some hope to be held out to patients suffering from leukemia. I have occasionally tried surgical operations in these cases, and while the progress of the disease seemed to be thereby arrested for a short time, the symptoms soon returned and the affection always went on to a fatal termination.

J. R. Wathen: As mentioned by Dr. Horine in his report, the patient was referred to him for blood examination to determine what the condition really was. On many occasions in surgical work I have been surprised at the result of blood examination, and long since adopted the procedure as a routine method in all important surgical cases. Oftentimes blood analysis will promptly and definitely settle diagnostic questions which otherwise might prove exceedingly difficult, and in some instances the real condition might otherwise never be suspected. Had the patient mentioned by Dr. Horine fallen into the hands of another surgeon, it is quite probable in the absence of a careful blood examination surgical intervention would have been promptly undertaken. No procedure in connection with surgery will yield more brilliant results than careful blood analysis, and while we should not neglect examination of the urine, the heart, etc., before undertaking surgical procedures, often times analysis of the blood will afford more valuable diagnostic information.

It was difficult in the case reported by Dr. Horine to determine by palpation the exact nature of the enlargement in the left side, i.e. whether it originated in the spleen, the intestine or kidney. The patient gave a history of diarrhea, and there were present various other indefinite and confusing symptoms. While the history was rather obscure we strongly suspected leukemia after deciding that the enlargement was connected with the spleen. The patient's condition and the result of treatment furnished confirmatory evidence as to the correctness of this diagnosis, and result of the blood examination proved that it was a typical case of myeloid leukemia.

W. C. Dugan: In regard to the diagnosis of splenic tumors: I am rather surprised that Dr. Wathen is in any doubt whatever about it. I have always thought that the notch to be felt in the tumor was pathognomonic of splenic growth!

J. R. Wathen: The notch referred to by Dr. Dugan cannot always be felt in these cases. Possibly Dr. Horine noticed the notch in this case during some of his examinations, but it was certainly not to be found when the patient was under my observation. My experience has been that where there is simply an hypertrophy of the spleen, with a more or less symmetrical enlargement, the notch can usually be found. However, there are many instances where this is impossible by the most careful palpation, especially in those cases where the spleen assumes the so-called kidney shape. Not infrequently the pathological condition is such that the normal outline of the spleen is completely destroyed.

W. A. Jenkins: From the standpoint of the physician it seems to me that the diagnosis of splenic tumor should not be difficult. Aside from the notch that has been mentioned there are many general physical signs present, where there is any enlargement of the organ. A greatly enlarged spleen, which necessarily fills the greater part of the left side of the abdomen, should be easily recognizable by the following characteristics: First, it is so superficially placed with reference to the ribs and the abdominal wall, (lying absolutely parallel to these structures) you cannot under any circumstances introduce the finger between the tumor and the ribs, it being the most superficial of all the abdominal structures. The tendency of other abdominal tumors is to spread downward into the cavity. This is the rule even with kidney tumors, and in addition there are apparent urinary changes in the majority of kidney affections, which would not be present in tumors of the spleen. Then, again, a kidney tumor, no matter how large, is as a rule elusive to the grasp in making your examination, it is much smoother than a splenic tumor, and tends to disappear in first one direction and then another. So far as a tumor of this size is concerned in connection with the intestine or the omentum, it seems there should be no trouble whatever in making the diagnosis.

F. C. Askenstedt: Acute myelogenous leukemia is an exceedingly rare affection, much more so than the lymphatic form; it is much more frequently encountered in the chronic form. Dr. Horine is to be congratulated upon his good fortune to have had such a case under his observation. The case is perfectly typical and there can be no question as to the correctness of the diagnosis. It is to be regretted that the doctor could not have made the blood examination every week to note the progress of the case.

E. F. Horine, (Closing): This was hardly a case of acute leukemia, although definite decision was not reached until after a thorough anamnesis had been prosecuted. It was developed that the patient had not enjoyed normal health for a number of months, and that three years previously she weighed 200 pounds. At the time she came under my observation, her weight was only 130 pounds. Another point was that she had not menstruated since the previous November, and this led her to believe that she was passing through the menopause. Considering the duration of the affection as demonstrated by the history, there would be some question about classifying this case in the category of acute leukemia, and I am sure it is correct to include it under the heading of the chronic variety. Of course the blood findings were absolutely typical of the myeloid type of leukemia.

With reference to robust people being the subjects of leukemia, rather than the more delicate members of the family: I am unable to offer any explanation, because my experience has been limited, this being the second case of the kind that has come directly under my personal observation. However, it appears to be true that this was a fact in the case reported.

SARCOMA (?) DEVELOPING IN SOFT TISSUES BELOW KNEE.

By William C. Dugan, Louisville.

This specimen is a tumor which I removed a few days ago from a man twenty-six years of age. The neoplasm is about one and a half inches long and three-fourths of an inch thick. I have never seen anything exactly like it, and am a little uncertain as to just what it is. Dr. Allen has made a section of the growth and is inclined to believe it is a sarcoma. It is a solid tumor first noted four years ago as a small, movable, painless nodule within the tissues one and one-half inches below the right patella. Six months ago it began growing more rapidly. I saw the patient about ten days ago and advised the removal, suspecting a pigmented sarcoma. A free incision was made and the growth was easily extirpated.

The specimen has been shown to a number of surgeons, and none of them have ever seen anything like it. The growth shows considerable pigmentation, but does not look like a melanotic sarcoma. It had no connection with the skin which moved freely over it. It must be some form of sarcoma, but just what variety I am unable to say. The growth has a peculiar appearance, and looks somewhat like liver or kidney tissue. It was located in the subcutaneous tissues, and was distinctly encapsulated. There was no history of trauma not anything else to account for the development of the tumor in the situation in which it was found. It was the same color when removed as you observe now, viz., a light chocolate color.

OPHTHALMOPLEGIC MIGRAINE.

(REPORT OF CASES.)

By Sam Brown Hays, Louisville.

About January 1st, 1909, I reported a case of hemicrania, or intense pain associated with a palsy of the motor oculi nerve. This was a total paralysis of the third nerve, as there was ptosis, mydriasis and exotropia. In the year previous he had had two complete attacks, one laid at the door of syphilis, and the other attributed to glaucoma. He was saturated with iodide of potash for two months with no effect except its poisonous one and then reaching only 10 drops t.i.d. This was for the first attack. The history of the second attack is meager except that it was short lived and opiates were resorted to.

History negative; habits correct; age 29; married; occupation, court stenographer; fundus of eye normal. Refraction each eye latent findings were three-quarters of a degree of hypermetropia. Left third nerve palsied with intense neuralgic headache on right side. Patient prostrated from the pain and pale in complexion. He had lost 20 pounds from not eating. Was given internally gtts iv. F. E. cannabis indica every 4 hours. Four days later he could walk about and felt better. The diplopic images were closer together; less pain present, pupil smaller and eye lid could be raised with greater facility. He was discharged in less than three weeks in no pain and eye nearly the apparent normal. He kept up the Indian hemp two months more and then for the next year he took gtts. iv. in a capsule t.i.d. for one month out of every three. Since January 1910, he has had no treatment or attacks. If migraine was to be considered an occupation neurosis he should have physical as well as mental exercise, so he was advised to that end. He had had no trouble of the character of migraine since.

CASE II.

On November 1st, a girl, age 22, single, gave a negative history bearing on the cause of her right hemicrania and palsy of the right third cranial nerve. This paralysis had been of varying degree and the headache of varying intensity for the previous three months, though not so complete as case 1. The right eye, the affected one, is a compound myopic one, while the left eye is a compound hypermetropic one. The correcting lenses are Rt. sph.—1.50; cyl.,—75 axis 150; V.=20-70. Left sph.+1.25 cyl.+.50 axis 75 V.=20-40. Headaches were relieved with bromides and extract of hyoscyamus in about one week, and the lenses with half the prismatic correction to produce fusion of images had the diplopia in abeyance in about ten days to two weeks. The patient was put on the iodides November 15th but could just take ten drops of the potash salt in saturated solution t.i.d. This case can not be called a cure because insufficient time has elapsed since November 1st, 1912. All of her symptoms disappeared in thirty days.

CASE III.

Female, colored, married; history negative except for statement neither denies or affirms syphilis. She took, later, sixty drops of saturated solution of iodide of potash t.i.d. She has been in bed by reason of, and treated for, rheumatism for six months. She complained of intense frontal headache on left side and presented a paralysed left external rectus muscle. Her diplopia distressed her so much that she kept one eye covered. Her refraction showed simple hypermetropic astigmatism in both eyes. Right eye cyl. +1.50 axis 75, V. =20-20; Left eye cyl. —1.25 axis 105, V.= 20-20. Left eye turned in. Pain only relieved by two grains of extract of cannabis indica in an emulsion t.i.d.

The amount of iodide of potash taken by this patient leads one to think that syphilis is present. The pain and the sixth nerve palsy disappeared under the iodides and the Indian hemp that were later simultaneously taken. The sight remaining good in each eye has it appear that it is likely syphilis or migraine. The squint, however, was improving before the iodides were tried. A nausea present such as with most neuralgias, caused the delay in using iodides. When the nausea disappeared the iodides were given. No therapeutist familiar with the worse migraines has denied the value of iodides even in the absence of syphilis. The patient died six months later of some obscure intra-cranial condition.

Only about 55 cases of migraine associated with one or more of the ocular palsies have been reported. The palsy disappearing with the pain is the best point in diagnosis.

DISCUSSION.

Curran Pope: I have never seen a case of ophthalmoplegia migraine, although a number of ordinary migrainous conditions have come under my observation.

I want to take issue with the text-books and a good many writers as to the use of the term "functional" with respect to these conditions. We are coming to realize more and more every day that they are dependent upon true pathological conditions, and the closer we study these patients the less we find of functional disorders and the more true lesions somewhere in the body that are responsible for the trouble.

I would like to put myself on record as being unalterably opposed to the current belief in the efficacy of the iodides in syphilis. I believe that the iodides are actually toxic to the vast majority of syphilitics, that they depress an already depreciated nutrition, and that they oftentimes do more harm than good. I have very decided opinions in regard to syphilis. First, that the diagnosis must be established from two standpoints, the clinical findings supplemented by the laboratory tests, either the Wasserman reaction or the cobra venom test, and my laboratory is now coming to have more faith in the cobra venom test than in the Wasserman reaction or Noguchi's modification of it.

Another point is that, in syphilis affecting the nervous tissues, mercury is almost valuless unless administered by the hypodermic method. I could cite a dozen cases that have come under my observation during the past six or eight months which would absolutely prove the correctness of the statements I have made. First, that the iodides in syphilis are not only inefficacious, but are oftentimes detrimental and possess absolutely no diagnostic value. In my opinion, the only diagnostic measures upon which we can rely in syphilis are, the clinical history and laboratory tests, and the diagnosis of syphilis should be made until we have made these tests, unless the clinical findings are absolutely positive, and then we should administer, hypodermically, the drug we have found to be the most potent—mercury. It must not be inferred from what I have said that I would not use, or combine with mercury, salvarsan, neosalvarsan, or some other arsenical preparation, because for years I have been using arsenic in conjunction with mercury, alternating the arsenic with hypodermic injections of mercury until the point of toxicity is reached.

Sam Brown Hays, (Closing): I had hoped that Dr. Pope, being a neurologist, had seen some of these cases, and I am sorry that he did not speak more to the subject of migraine.

Ophthalmoplegic migraine is a very rare condition. I have had one other case that I did not report, because there was some doubt as to whether it was syphilis or true migraine. In the other cases, however, I have every reason to believe that syphilis played no part. It is not rare to see ocular palsy in syphilis, but such cases do not have headaches to amount to anything and in the cases reported the headache and prostration were extreme.

NEOPLASMS OF THE EYELIDS.

(REPORT OF CASES.)

By M. L. Ravitch, Louisville.

I should have said tumors of the eyelids, but since we meet circumscribed growths, produced by inflammation or specific processes, like syphilis, tuberculosis, mycosis fungoides, and blastomycosis, I have to stick to the above title.

The dermatologist comes in contact with such phenomena. The question is how to rid the patient of these neoplasms. Surgical procedures are too complicated on account of the loss of blood and the irritation produced by stitches. The only rational treatment is electro-cautery. Out of nine cases of mixed neoplasms, I had only one failure, and the latter was due to the failure of the patient to undergo further treatment. Four cases were referred to me by Dr. Cheatham. Of the nine cases, two were epitheliomata, three adenomata, one blastomycosis, two papillomata, and one milium. I removed these neoplasms with the assistance of the young lady in my office and two other cases without assistance. A few drops of a 2 per cent solution of codrenin are dropped in the eye. The affected everted eyelid is drawn down (if the tumor is on the lower lid) and drawn up in case of upper lid. A suitable cautery knife is selected, heated to a white heat, then, thoroughly cauterized, leaving no pieces. The burned place must be thoroughly washed off with 95 per cent. proof alcohol. The lid is wiped off with cotton, a drop of codrenin put in again and the patient is rid of the trouble. Hardly any after attention is necessary, except a mild boric acid-resorcin solution is used by the patient for a few days. The results in most cases (I should have said all) are very good. Dr. Cheatham and Dr. Heim can vouch for this statement.

TENDON TRANSPLANTATION IN PARALYTIC CLUBFOOT.*

By B. F. ZIMMERMAN, Louisville.

CASE I.

Corrine F., aged ten years. Family and personal history good. Had attack of diphtheria at the age of three years. On the morning of July 4th, 1908, she awoke and refused to walk. On investigation it was found she was unable to walk, that she had during the night a severe attack of paralysis of both legs. She was unable to stand on either leg for three weeks, at the end of which time she was able to walk about with assistance. Improvement was rapid and complete restoration of function occurred in the right leg. However, certain muscles of the left leg remained paralyzed, that limb was much smaller than the right, and the foot was used with difficulty.

After a few months it was noticed a deformity was developing in the left foot. The abductor muscles of the foot having apparently suffered most, a condition of varus resulted. Slight at first, it was soon deemed advisable to apply a brace, which was done and the brace was worn until the beginning of 1912, when the deformity had increased to such an extent that she was unable to wear the brace to any advantage.

I first saw this patient in July, 1912. The right leg was apparently normal, the left below the knee showed decided atrophy, weakness of the muscles, the deformity presenting being equino varus. The tibialis anticus was the only muscle which had apparently completely recovered from the attack. In July, 1912, I did a preliminary operation which consisted in forcible over-correction of the deformity and cutting the plantar fascia. The limb was placed in a cast and kept in this position for one month. On August 31st the operation of tendon transplantation was done. A portion of the tendon of the tibialis anticus was detached at its insertion, the tendon split up to and beyond the annular ligament and the end of the tendon inserted into the outer side of the periosteum of the foot. At the same time the transplanted tendon was sutured to the two outer fasciculi of the common extensor of the toes. A cast was applied and allowed to remain on for one month, at which time a suitable brace was prepared which she has worn to the present time.

CASE II.

Thelma H., aged eight years. Had scarlet fever at the age of three. About three years ago one morning her parents were surprised to see her crawling into the kitchen and censured her for so doing. The child contended that she could not walk. She remained in this condition until the afternoon of the same day, when she was able to walk. No paralysis other than this was noticed. A month or so afterward, however, deformity began to make its appearance in both feet, which gradually increased until a varus position of both feet resulted. An operation was done at the time which I understand consisted of cutting the plantar fascia under local anesthesia correcting the deformity, and the application of a plaster cast which remained on the limbs for five weeks. The cast was then removed and the outer sole of the shoe elevated and the child allowed to walk.

The deformity almost immediately returned and gradually increased until the time I saw her. when there was well-marked varus position of both feet, more pronounced in the left, with strong contraction of the plantar fascia of both feet.

In December, 1912, I did a preliminary operation consisting in cutting the plantar fascia with forcible over-correction of the deformity and the application of a plaster cast which remained on the feet for one month. January 7th, 1913, I operated upon the left foot and February 10th on the right foot, in both cases transplanting a portion of the tendon ofthe tibialis anticus to the opposite side of the foot, inserting it into the periosteum covering the calcaneus and cuboid bone. An arthrodesis of the calcaneo-cuboid joint of either side was done. The casts were allowed to remain on one month, and were then removed and a brace applied.

CASE III.

Earl H., aged eleven years, brother of Case 2. Had diphtheria when three years old, otherwise had been entirely healthy. At the same time that the deformity was noticed in his sister's feet it began in his. An operation similar to the one performed upon his sister was done as soon as the deformity became pronounced, that is the plantar fascia was cut, over-correction of the deformity, and casts applied. As soon as the casts were removed the deformity returned, and his feet to-night are an exact counterpart of his sister's before the operation for transplantation of the tendon was done.

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*Written report read before the Jefferson County Medical Society with presentation of patients, April 14, 1913.

The first of these cases was an undoubted one of acute anterior poliomyelitis affecting the motor centers controlling the muscles of the lower extremity, and as is usual in these cases recovery was rapid and decided. The lesion in the cord is never as severe as the paralysis would seem to indicate. Some of the motor centers are usually entirely destroyed, others are merely crippled to a certain degree from which they ultimately entirely recover. Again, much of the paralysis may be due to the pressure of exudates upon the motor centers, and with absorption of this exudate there is restoration of function.

Cases two and three I believe were pure cases of anterior poliomyelitis, one showing but slight symptoms, the other showing no immediate symptoms. Both, however, present evidence of partial paralysis of the abductor muscles of the foot, the peronei.

It is in the paralytic type of clubfoot that we may hope to secure favorable results from tendon transplantation. This, however, should not be attempted until every effort has been made to restore the muscles to normal function. When marked deformity has occurred and the treatment has been neglected, I believe better results can be accomplished by first correcting the deformity then making application of electricity, hydrotherapy, massage, etc., to strengthen the weakened muscles

In transplantating the tendons we attempt to make a healthy muscle do the work of those that are partially or completely paralyzed. This requires careful study in the selection of tendons to be used. Possibly the best results from transplantation in cases of paralytic clubfoot are in those where there is a varus position. The paralyzed muscles here are naturally not very strong, hence better results are to be expected from the substitution of other muscles than where the muscles affected are strong and powerful. We can utilize here the strong tendon of the tibialis anticus, the strongest of the anterior tibial gorup, and to a great extent compensate the defect in the peronei.

The operation is simple and easily performed. Incision is made along the inner anterior aspect of the foot from the first metatarsal bone up to the annular ligament of the ankle. The tendon of the tibialis anticus is isolated and a portion, at least one-half of it, detached at the point of attachment, accruing with it the periosteum and a thin slice of the bone. The tendon is spit up to the annular ligament, then beneath the annular ligament, and above as far as the attachment to the muscle if deemed advisable. A counter opening is then made on the outer side of the foot over the calcaneo-cuboid articulation, a pair of hemostatic forceps or blunt scissors passed beneath the skin and superficial to the extensor tendons, the tendon is grasped and dragged through this tunnel and out at the counter incision. The calcaneo-cuboid joint is then opened and a norrow strip of the articular surface on either side removed, the joint being closed with catgut sutures. The periosteum is then incised and elevated, and the detached tendon with its periosteum and bone placed beneath the elevated periosteum of the cuboid or os calcis. It is held in position by placing a fine silk suture through the reflected periosteum and the tendon of the muscle. The periosteum is then sutured, and the wound is closed with catgut. A plaster cast is applied holding the foot in an over-corrected position.

Care should be taken not to have too much or too little tension upon the transplanted tendon. If too much tension the muscle works at a disadvantage, and there is very great traction upon the point of attachment. If there is too little tension part of the force of the muscle will be utilized in taking up the slack of the tendon and thereby lost, and the foot will not be held or maintained in the position that it should be. The tendon should be on slight tension when the foot is in a slightly over-corrected position.

ELECTRICAL EXAMINATION.

BY JNO. J. MOREN.

In the cases of Earl and Thelma the electrical examination showed only a quantitative change in the muscle sof the lower leg. All muscles responded to both the faradic and galvanic, but required a much stronger current than usually is used. The Peroneii are especially sluggist and require a much stronger current to produce the contraction than any of the other muscles. The interesting point in these cases is the prompt response ot the nerves and the sluggish response of the muscles. In view of the fact that the children can use their feet better after a few treatments lead some to believe that this prompt nerve response and sluggish muscle response is due to a lack of muscular development.

The examination in little Corrine's case showed a distinct quantitative and qualitative change in the peroneii and ext. com. dig. At the first examination the posterior muscles were very sluggish and at the first I thought showed a typical reaction of degeneration. To-day, the fourth test, the posterior muscles responded quickly to the faradic and galvanic and showed practically no polar change. I believe that these cases are true anterio poliomyelitis.

These cases also serve to illustrate the advantage of electricity in the stimulating of crippled muscles following such a disease. Had I accepted the first examination as the condition actually existing I would have misled both the surgeon and myself. Oftentimes a few applications of electricity will change the electrical reaction more or less. I believe that the cautious administration of either the galvanic or the Morton wave current from the static machine will be of material help in the cases of Earl and Thelma. The galvanic should be used in Corrine's case, and it should be watched and not overstimulate the posterior muscles too much. When she came to the office to-day she made the remark, "Look, Doctor, I can use my foot better." This I attribute to the stimulation of the posterior muscles by electricity which brought out the little motion that she has noted. Should we develop these muscles too rapidly it might change the deformity of the foot by overcoming the action of the crippled extensors.

DISCUSSION.

W. Barnett Owen: Dr. Zimmerman has presented a very interesting family of cases. While this condition is not uncommon, we rarely see it affecting so many members of the same family. I wish to congratulate the doctor upon the results obtained thus far, but I believe he realizes that he will probably have to operate again upon one or two of these feet, as the tendons are very frail and the muscles are weak. The boy has as good a result as could be expected in the correction of the deformity. The girl has a dangle foot with absolutely no control of flexion, and it is held in equinus at least ten degrees. I believe that will require arthodesis; that is, putting the foot up in plaster in an over-corrected position of acute dorsal flexion, and allowing the plaster to remain for three or four weeks, and then applying a properly fitting brace that will not permit a recurrence of the equinus.

The operation of tendon transplantation, while not a new one, has not been done to any extent in this part of the country. It is now being used more extensively than ever before, and I think we will continue to employ it more and more, as there is a good field for it.

C. H. Harris: From the history of these cases the trouble would appear to have been a paraplegia rather than an acute anterior poliomyelitis, as it is unusual to see both limbs involved in the latter condition; at least, that has been my experience. In addition to this, there is no definite history of anterior poliomyelitis.

Ap Morgan Vance: Referring to Dr. Harris' remarks, I would say that the vast majority of cases of anterior poliomyelitis affects both limbs primarily, generally one faster than the other.

P. F. Barbour: I have seen a good many cases in which there was a paraplegia, both sides being involved. Therefore, I do not believe the fact that both limbs were involved would be sufficient to rule out the diagnosis of anterior poliomyelitis made in this case.

I think Dr. Zimmerman is to be congratulated upon the results in these cases. Tendon transplantation is recommended by many men, but it is not often that such good results are shown. Dr. Moren made one good suggestion; namely, that electrical treatment should be maintained for quite a while.

If I understood the doctor correctly, the history of anterior poliomyelitis dated from July, 1912, and in that even there is still some chance for improvement until at least a year has elapsed, and there are cases on record where the improvement continued for as long as two years.

J. Garland Sherrill: This subject is especially interesting to me, inasmuch as I have a niece afflicted with this condition. This girl, a very healthy child of twelve, suddenly became ill and in a little while presented the usual symptoms of infantile paralysis, both legs being involved up to the hips, and at first it appeared that she would never be able to walk. Under careful treatment, however, by massage and manipulation, stimulating the circulation rather than the nerves, she improved until she has fair use of one side, and of the other side down as far as the knee. She is now about eighteen years of age and is able to walk and, as the result of an operation of this kind, she has a very useful foot on the paralyzed side.

I think tendon transplantation is a measure of great benefit in these cases. The tendon to be transplanted and the position in which it is to be placed must be very carefully considered. In addition to that, operations on the joints offer some benefit to these patients. We should be very careful in the use of electricity in these cases, lest we over-stimulate the strong muscles and thereby increase the deformity.

Cuthbert Thompson: I would like to ask Dr. Zimmerman how soon after paralysis had occurred would he advise operation?

B. F. Zimmerman, (Closing): In reply to Dr. Thompson's question, I will say that in one of these cases the paralysis had existed for five years and in the other for two years. After the free use of electricity, massage and hydrotherapy for a period of at least two years in an unsuccessful attempt to restore the muscle, we recommended operation.

In regard to Dr. Owen's remarks concerning the little girl's dangle foot, I can only say that we never can tell just what the result of a given procedure will be. We only do one thing and then if the result is not what is expected, try another. It is impossible to say just what we will have to do in this girl's case before we get a serviceable foot. After the first operation the child could not wear a brace; her foot would turn under and the result of the operation was detrimental rather than otherwise. However, we have corrected this to such an extent that she can wear a brace and run and play without discomfort.

Dr. Barbour spoke of the results in these cases being good. They were of a mild type, especially the brother and sister, in which we can expect excellent results from the application of stimulation and massage to the paralyzed muscles. In more severe cases, of course we cannot hope for such good results. However, the results in these cases may not be as good six months hence as they appear to be now.

MEDICAL PROGRESS

DEPARTMENT OF SKIN DISEASES.

By M. L. Ravitch, Louisville.

In the symposium on syphilis presented last June at the American Medical Association session, a question arose whether the excision of the chancre would be advisable and proper. This procedure was greatly condemned on account of revival of old ideas. I took a part in the discussion and rather lauded this method. I see that the German writers on Dermatology and particularly those, using salvarsan, are strongly urging the excision of the chancre, since the dense cell proliferation, characteristic of the disease, cuts off the blood supply, making it impossible for "606" to reach infected areas.

Dr. M. B. Hartzell, the most brilliant and logical dermatologist clinician and writer, claims that there is a real and intimate relation between lupus erythematosis and Raynaud's disease. In many cases of these two affections which came under his observation, he particularly inquired into the etiological factors, and came to the conclusion that both diseases should be regarded as a toxic erythema. He also considers the relationship to be due to the fact that at times there be a common cause in the circulation, probably toxic, which produces vasomotor and inflammatory changes in the skin and subcutaneous tissues.

What is the real etiology of eczema? This matter was taken up and thoroughly discussed at the last meeting om the American Dermatological Society. Different dermatoses, resembling eczema, were excluded, such as trade eczemas (which is rather a true dermatitis since we know its real cause) and eczematoids due to staphylococcic origin as reported by Sabouraud, Fordyce, Engman and others. It is the acute and subacute eczema, with its limited and generalized processes, that was taken up and discussed. No definite conclusions were made. Dr. Hartzell reiterated his oft-expressed opinion that during the past century we had nôt learned a single fact bearing upon the internal cause of eczema.

The most brilliant and scientific paper on eczema was that of Dr. James C. Johnson, who is, by the way, a Kentuckian. Disposing of parasitism, disorders of digestion, elimination, the nervous system as the probable causes of eczema may be narrowed down to derangement of nitrogen metabolism neither anaphylactic nor a defective synthesis of urea, but occurring where for the moment biochemistry cannot demonstrate it. Color is lent to the theory by the appearance in its course of allergic phenomena and urinary evidence of incomplete desmidation. Perhaps the fault lies in the favor of protein-splitting in the intestinal wall or the blood stream before the tissues select their store of amino-acid nitrogen.

Luithlen, the best biochemist and dermatologist in Vienna, who paid particular attention to chemistry of the tissues and skin in healthy and disease conditions, is of the opinion that eczema is due to metabolic disturbances. His observations are the first scientific proof of the old empirical fact that nutrition, diet, and internal treatment are important. They explained in which way diet, mineral waters and health resorts, for instance, Carlsbad, may exert a beneficial influence not only upon the entire system and its metabolism, but also upon the reaction of the skin and some of its affections. These findings show that in the treatment of eczema we must pay attention to metabolism. They justify regulation of the diet and also the internal treatment; they are the proper scientific basis for treatment which many of us have initiated years ago based on clinical observations. They show the road to etiological therapy upon which we may reach probably more exact indications for treatment with greatest security and success.

That alopecia areata, may be due to some reflex irritation, is thoroughly discussed by

Dr. H. E. Jones, in the *British Journal of Dermatology*. Working on the hypothesis illuminated by Jacquet, the writer has thoroughly investigated the possibility of reflex irritation being the cause of alopecia areata. Fifty consecutive cases of alopecia areata were carefully examined as to the condition of the teeth, the pharynx, the naso-pharynx, the vision, the conjunctivae, etc. In these fifty cases, the ages of the patients varied from five to fifty years; eight showed no carious tooth or decaying stump; twenty-three exhibited affections of one or more of the molars; nineteen presented decayed molars and one or more of the other teeth in the same condition. Four of the cases showed no possible source of reflex irritation; four showed tonsillar hypertrophy, adenoids, defects of vision, headaches, or a combination of these, but with no dental defect; fourteen exhibited carious teeth, and also other possible irritative lesions, such as tonsillar hypertrophy, adenoids, ocular trouble, etc.; twenty-eight exhibited carious teeth alone without other signs of reflex irritation. The bald areas were also classified according to the nerves supplying the affected parts; the alopecia was universal in three cases; in four of the cases the trigeminal nerve supplied the involved areas, on the scalp, the bearded region and the eyebrows; in five, the trigeminal nerve supplied the bald areas of the scalp; in eighteen the alopecia corresponded to the distribution of the great and the small occipitals, or regions supplied by the brachial plexus only; in twenty, the attacked areas were supplied by the occipitals, the cervical plexus and also the trigeminal.

Although 80 per cent. of the cases had dental trouble of some sort, which implies a possibility of irritation through the trigeminals, in only nine cases, 18 per cent. was alopecia areata observed in the part supplied by this nerve. To further prove the incorrectness of the observation of Jacquet, fifty consecutive surgical out-patients of a similar age were examined and, notwithstanding decayed teeth were noted in thirty-eight of this number, there was not a single one of the individuals with an alopecia or affection of the hair.

Sampelayo claims that alopecia areata or universalis due to syphilitic infection, can be easily cured by two or three injections of salvarsan. He cites a few cases, where the injections produced almost marvelous results.

I always doubt the efficacy of drugs that give us marvelous results. We get too enthusiastic over the therapeutic value of certain drugs and often give exaggerated reports. Pharmaceutical houses and mercenary medical journals are often the cause of it.

VACCINE IN POST-OPERATIVE PNEUMONIA:

(REPORT OF CASE).

By E. S. Allen, Louisville.

On November 1st, I operated on a young man at one of the local hospitals. He was brought in from the country at 2:30 A. M., with acute appendicitis. His clinical symptoms pointed to an immediate operation. The operation revealed a ruptured unprotected appendix. Drainage was resorted to. The first 24 hours following the operation showed a changed clinical picture. He looked as if he was going to get well without further trouble. I was called out of the city at the end of the first 24 hours and upon my return the following day, I found the young man with a temperature of 102.6, respiration 52, and pulse 150; anxious expression, dry tongue and parched lips. Physical examination revealed tubular breathing over the entire lower left lobe, with a constant hacking cough and a grunt with each inspiration. I had a general practitioner to see him in consultation and he diagnosed the condition as pneumonia.

I suggested the mixed Shafer vaccine, thinking probably that we had a septic thrombus from the appendiceal region. Ten c.c. of vaccine was given at one dose, and 10 minims of digalen hypodermatically every 4 hours until the pulse was under 120. Three hours after giving the vaccine the pulse was 140; temperature 102; respiration 46.

Six hours after vaccine temperature 101; respiration 36; pulse 110. The following morning, 14 hours after vaccine, temperature 99.6; pulse 96; respiration 28. The following day, or about 40 hours after vaccine, temperature 99, respiration 24, pulse 90.

The boy was very much more comfortable seven hours after vaccine, and the following day presented a different clinical picture from the day before. I believe that his marked improvement was due to the vaccine.

VACCINE AND SERUM THERAPY.*

By C. C. Howard, Glasgow.

I will attempt to touch a few of the most salient points of a subject which is only in its infancy, but some day will be the main chapter in your books on therapeutics, viz: Vaccine and Serum Therapy.

To fully understand this subject, we will first have to study how an organism acts when it enters the body, also how that host resists this invasion.

When an organism enters the body it meets a resistance, this resistance is the fighting power of the phagocytes, and the different properties in the blood serum. The organism takes up quarters, begins to multiply, and forms toxines which are set free in the circulation, causing systemic symptoms. Does nature stand by, with her little white soldiers, and see her temple torn down piece by piece? No! and a thousand times, no. She marches her army of brave soldiers out to a battle-royal, guided by that unknown force, called chemotaxis, which will lead them to the camp of the enemy.

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*Read before the Barren County Medical Society.

Picture to yourself a local infection caused by the streptococcus, with that grave prognosis; see those little white soldiers by the millions embarked on those streams of life, and sail off to war! Perhaps some are old, and battle-scarred; from these we will receive great assistance. Watch them throw up their embankments trying to control this invasion! Off they go with a ship load of prisoners (bacteria), quietly to land in their prison-house (a neighbor lymph gland), there to sit down and enjoy the trophies of war. Let us go back to the battle field, where the battle is still raging under the generalship of Nature, upon one hand, and Death upon the other. Death has broken through our first entrenchment, and many a soldier has forfeited his life. She begins to outline her roads of entrance, marking then by well defined red lines. Nature is losing now; instead of guarding off those heroic charges, she falls back, and allows the deadly toxine to float on its way unmolested, and she answers in a delirium state of mind, with a shiver which shakes her frame "until the vital chord is broken," and we crumble back to mother Earth, while Death hoists her black flag over another victim.

Let us turn the picture around, and view the other side. Our intrenchments are impenetrable, and our soldiers are educated in this kind of warfare. See them storm the fort of the enemy, right into the jaws of Death! Each one returns with some of the spoils of victory in his arms. A few brave charges like this, and the battle has ended in a complete victory for Nature, by which a life has been saved, and more soldiers educated for warfare.

When Nature repairs an injury she is lavish, never scanty. Noticing this closely, Ehrlich worked out his side-chain theory, which is as follows: Each cell has arms, or bonds, protruding out from it. These different arms have an affinity for different toxines; they grasp the toxins and destroy it, or, in turn, are killed themselves; the cell, in repairing the injured arm, overdoes the job by forming an extra number of arms which are set free in the circulation. These, in turn, can neutralize the toxine of a similar infection, thereby causing an immunity to be established. This is by far the most plausible theory of immunity. So, when Nature's surgeon walks in after a battle, he not only repairs the injured arms of soldiers, but an extra number is also formed, and set free in the blood.

Our knowledge of protective inoculation for disease dates from Jenner's discovery, in 1898, and to that great observer, Pasteur, we owe the debt of gratitude for the discovery of an immunity established by inoculation with an attenuated virus.

First, let us consider for a few minutes, Serum Therapy. This line of treatment had its beginning in the school of Behring, mainly in diphtheria, in which we can all raise our voices in praise of; here we deal with an antitoxine which combines directly with the free toxine, therapy neutralizing it, in all suspected cases of diphtheria, I think we should give it early, and in large doses. If you wait until the disease has advanced to some extent, a part of the free toxine in the blood will have united with the cells of the body, and injured or destroyed them; you cannot neutralize it after it has gone into combination. The same law holds good in tetanus; give it in suspected injuries, for once this toxine has united with the cells of the brain and anterior horn of the cord, your antitoxine is powerless. There are other serums that are being used with some success.

Now let us consider vaccines, and their action. Vaccines are dead bacteria grown in the laboratory, killed by heat ,suspended in a physiological salt solution, and counted by the aid of the microscope, then put up in small ampoules and labeled. These are put on the market as stock vaccines.

Autogenous vaccines are prepared in a similar manner, only they are grown from the bacteria taken from the case which they are, in turn, to b eused on.

Vaccines act upon the opsonic index, by that we mean they prepare the bacteria for the feast of the phagocytes, make them more palatable and easier digested. Think how much more you can eat when the table is loaded with a variety of well-cooked victuals, a nice vase of flowers in the center, the walls decorated with pictures of fine fruits and wild game, and, last, but not least of all, a nice young lady to wait upon you!

A few of the diseases in which vaccines are indicated, especially in chronic conditions, for here you find the opsonic index low; the cells have grown tired of the same old diet, day in and day out, viz: chronic cystitis, or any chronic condition of the genito-urinary tract, discharging ears, sinus complications, furunculosis, acne, syncope, chronic bronchitis, lagrippe, and complications of gonorrhoea.

A few of the acute conditions in which we may expect to receive some benefit, septicemia, tonsillitis, pharyngitis, salpingitis, epididymitis, orchitis and pleurisy. There are others that are worthy of trying them in.

As a prophylactic measure, our greatest success has been in typhoid fever, tetanus, and diphtheria. In the last few months I have been doing a little abdominal surgery, where I had to deal with pus, and in one case a perforated gut; in these cases peritonitis was greatly feared. Immediately following each operation I gave a moderate dose of mixed vaccine. In the perforated case the greater part of the dose was composed of the colon bacillus.

As to dosage, there is no fixed rule to follow, each case is a law unto itself. In my limited experience I have found it best to begin with a moderate dose, and gradually increase at an interval of five to seven days, noticing all the symptoms closely, viz.: temperature, pulse, respiration, and pain, also the discharge, if any is present, noticing closely to see that your negative phase is not of too long a duration; of course, you would expect a negative phase lasting a few hours to one or two days. During the negative phase the resistance of your patient is lowered, therefore try and make it as short as possible, then follows the positive phase where the opsonic index is raised, reaching its height in five to seven days, then it gradually declines. Now is the time to give your second dose, gradually increase it. Continue this treatment as long as your results justify it, until your positive phase can be raised no higher. Of course, it would be much better if we could have the opsonic index taken at intervals of three to four days. But this procedure is not practical at all, and we can get almost as good results by being guided by the clinical symptoms.

CONCLUSION.

1. Vaccine and serum therapy has come to stay. It is scientific medicine, based on scientific principles.

2. It is harmless, if properly prepared, and given in the right dosage. It has been proven to be a great aid in chronic conditions, where the opsonic index is low; also marked benefit has been shown in acute cases by its use.

3. Situated like we are, many miles from the laboratory, I would first try stock vaccine; if no results within a short time, would then mail a specimen of the discharge from the case to a reliable laboratory, and have an autogenous vaccine grown.

4. As to what vaccine should be used? As quick as possible obtain a specimen from the case, stain and with a microscope examine carefully. In the majority of cases, this will put you on the right road, if in doubt, give the mixed variety (Van Cotts), or use the autogenous.

5. Use all other well established remedies which will help to restore your patient to health again.

CONSERVATION OF HEALTH.*

By J. H. Jeffries, Ford.

To my mind the most important and the most far reaching subject that presents itself to the American people to-day is the conservation of health. In this age of conservation it is paramount that man conserve himself. This work naturally falls to us as physicians for we are the ones who know the conditions that exist and have the knowledge to apply the remedy. It is a stupendous undertaking and will tax our strength to the utmost, but it is a cause worthy of our every effort for it is the richest gift within the power of this age to bestow upon the next. In the solution of this question we must deal with the three great problems upon which all life depends.

1st, The Food problem; 2nd, The Sex problem, and 3rd, The problem of involving protection for ourselves and offspring from inanimate nature and from the lower forms of animal and vegetable life.

1st. We must have a food supply that is wholesome and free from adulteration. The National Pure Food and Drugs Act, passed in 1906 has accomplished a great deal in this direction but a great deal is yet to be done, and it must be done by the people of the State through well-paid and efficient food inspectors and health officers. Our larger cities have the matter well in hand and are doing excellent work; but what is being done for the great mass of our people represented in the rural districts? What protection have they from the unsanitary slaughter house, decayed and contaminated food, typhoid milk and polluted water? I say, none, nor will they have protection from these things until the public conscience is awakened to the need of a well paid and efficient health officer in every county and town of the State.

2nd. We must meet face to face the great sex problem, wage war on venereal disease and ameliorate that endles chain of misery that follows in its wake. The solution of this problem has been asked since the beginning of time, is being asked to-day and will continue to be sought throughout all the ages yet to come. It was and is and will be the one consuming question of the time. Upon our handling of this question depends whether we will or will not be confronted by the same danger that confronts France to-day. Upon it depends the perpetuation of the race. It is at once the weal or the woe of posterity. Poets have sung of it, great religions have been founded upon it. It is the point that marks the parting of the ways of life where two roads present themselves. One leads to joy and love and peace and power, life, health, happiness and Heaven, the other to want and woe, sorrow and suffering, disease, death and Hell. Is it not time our children were taught the essentials of sex hygiene? Is it not time the people knew what is filling our asylums for the blind? Is it not time the people knew what is bringing so many of our young married women to the operating table, there to hover between life and death recovering perhaps only to become invalids or sterile for life. If we would conserve health we must not neglect such questions as criminal abortion, venereal disease and prostitution. It is not my intention in this paper to offer a specific remedy for any one condition, certainly not this complex one. This is an age when the people are demanding to know the social conditions that exist in this country. We know the conditions that exist but we haven't the power to apply the remedy; the people have the power but they do not know the conditions that exist. We must incorporate our knowledge with their power to accomplish results. Therefore it is our duty to bring the facts regarding these social questions before the people, then I think we may safely leave to the tribunal of an enlightened public conscience the solution best suited to serve the needs of society. As to the first part of the third problem, namely, protection for ourselves and off-spring from inanimate nature, let me say that we must have fewer accidents in the mills and mines and on the railroads of the country. We must have better protection for those exposed to the occupational diseases. We must have more healthful and better sanitary conditions surrounding those who live in the tenements and work in the factories of our cities. We must free the unfortunate ones from their slavery to the cocaine and morphine habits. So far as I know the first systematic work along this line has just been organized in Chicago in the form of a school to study the principles and methods of prevention of accidents and occupational diseases. It is under the supervision of the State factory inspector and has on its staff a physician who has made a special study of occupational diseases and an engineer who is an expert in the guarding of hazardous machinery. This is a move in the right direction and the establishment of similar schools in other states should be encouraged. It is not necessary that I speak to you of the need of protection from those diseases caused by the lower forms of life, for you are familiar with the great work already being done in this field. However, I must mention two diseases which I am sorry to say form the living environment of the people of Kentucky—tuberculosis and typhoid fever. The prevalence and preventable nature of these diseases should be instilled into the mind of every citizen of the State.

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*Read before the Clark County Medical Society.

Now, you ask me the solution of all these questions and I give you my answer in one word—education—education of the child at the mother's knee; education in the public school and education of the people at large by means of the press and the lecture platform. We want to bring to the hearthstone of every home in Kentucky the glad tidings of the new era in medicine. To this end let every physician give his active support; let every county society become a lecture bureau on matters pertaining to the public health. Let us enlist under the flag of the grand old leader who, like the Moses of old, has given thirty years of his life to the leading of his people out of bondage to the modern Pharaoh, disease. Let us follow the leadership of J. N. McCormack, I say, and we will place Kentucky foremost in the rank of all the states in the great fight for the conservation of health. According to a statement made a short time ago by Dr. McCormack, sixty thousand deaths and two million cases of illness, that can be prevented by the use of proper methods, occur in this country every year. This is a conservative statement of an appalling condition, and it is not made of a foreign country or an alien race, of a time long past or a people forgotten,—this condition exists here and now; it applies to our country and our people, to our state and our time, to our home and its loved ones. The spectre of death from preventable disease stands on the threshhold of the home we love. Shall we let him enter? Or shall we bar the door?

You have been told that human sacrifice was a tribute exacted by the gods of a former age, when the world was young, but I will tell you that a world grown grey with knowledge still sacrifices its thousands on the altar of preventable disease. That is not all; these millions bowed down with the burden of unnecessary illness; they are bearing the cross of affliction, they are wearing the crown of thorns, they are wending their way through the vale of tears to death and dissolution. This foul and polluted river of preventable disease, its waves white-capped with the shrouds of love, hope and joy, is draining this land of its young men and women, the strength of the nation, those whose morning of life has not yet touched its noon. It is taking toll even of the toddling babe who has not yet learned to lisp the name of mother. To me the strongest appeal of all that come to us from these suffering ones is the pleading of the little child. Every mother knows that silent plea for help that comes to her from the white, outstretched arms and the dimmed eye of the little babe whose tongue is yet untouched with the gift of words. Now, in conclusion, I will say, let us sow the seeds of prevention to-day that tomorrow our children may reap the harvest of health. Let us enlist our services in the cause of the sick to-day that to-morrow they may be well. Let us do our duty to humanity to-day that to-morrow we may add a few more years to the span of life, have a few more days of health and happiness, a few less of pain and pestilence. When this, our work, is done and the shadows begin to fall about us as the golden sun of life for us is slowly sinking in the west, we will leave a chart of the sea for the ships of to-morrow that our children in crossing the ocean of life may avoid the rocks and the reefs of death and disease in the morning and the noontide of the voyage and shall reach the shores of eternity only when wrapped in the shadows of the evening of life. We will bequeath to posterity the heritage of health than endures forever, grows stronger and stronger as time goes on so that each generation will approach nearer and nearer the goal of a perfect race of men.

REPORT OF A CASE OF PELLAGRA.*

By F. G. Gabbert, Pellyton.

A son of Oscar W., Pellyton, Adair county, age 10, first applied to me about April 15, last, with the following history and symptoms: Had been complaining vaguely for about three years, never confined to bed, chief complaint was due to his skin trouble, always in spring time and disappearing the following fall. When first seen there was a profuse eruption involving face and dorsum of hands, a complete collar all around the neck being about two inches broad, except in front, involving, in places, the entire thickness of the integument. Features entirely destroyed by a mask of deep seated sores, reaching the deeper structures of skin and causing a brownish crust all over the face. None on chest, abdomen or thighs. From knees down the eruption was the same as on the face, fully as deep, and having the same crusty appearance, feet included; the anterior surfaces of the legs were worse. Mouth was tender, tongue creased with deep furrows, the mucous membrane destroyed, hair was unnaturally dry, though not falling. At times had diarrhea for several weeks, worse than ever before, each succeeding year all symptoms would return in aggravated form, appetite nil, digestion and assimilation very poor, slept poorly, acute daily headache, fleeting in character, usually beginning in the head and extending rather rapidly down the spine and then disappear to return in the course of twenty or thirty minutes, having from ten to twenty a day. Some seven or eight days before beginning treatment he would act as in mild epilepsy, falling but not losing consciousness. This lasted a few days after treatment, when they grew less in severity and farther apart. After this time a general improvement began—Aiken's tonic being the principal remedy—digestants, etc., stimulating and disinfecting applications locally. Active treatment was kept up about two months with such remedies as seemed indicated at the time. General improvement was rapid on to complete recovery, until now he is to all intents and purposes perfectly well. Disappearance of the eruption began on the face though it did not proceed far until all began to go. About one month after dismissal precautionary and preventive remedies were given for two weeks. After the lapse of another month the same course was adopted, the last being about a month ago.

I had patient wear a protector over the erupted surfaces until the disappearance was well under way when it was removed and not used again. It was not exceeding ten weeks from the time the little boy was brought to me until he was dismissed cured, though, as stated, precautionary treatment has been used several times since.

Of course the diet, environment, personal hygiene, exercise and all were carefully looked after. There was absolutely no history of any exposure or source of infection.

The Aikin's tonic referred to contains, quinine, iron, arsenic, gentian and strychnia.

Rubber Gloves—Burmeister remarks that surgeons would not lose their temper over rubber gloves quite so often if they followed his practice of lubricating them with bolus alba. Just before putting on the gloves, he takes two tablespoonfuls of bolus alba in his palm and rubs it with a little water over both hands, so that they are covered with a thick paste. The gloves then slip on and off more readily, while they cling to the hand better and the paste has a soothing action on the skin and seems to protect the gloves against tearing.

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*Read before the Adair County Medical Society.

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VOL. XI. BOWLING GREEN, KY., JUNE 1, 1913 No. 11

EDITORIAL.

NOSTRUMS AGAIN.

Mr. Edward Bok, the distinguished Editor of the *Ladies Home Journal* of Philadelphia, is one of the best and squarest lay friends the medical profession has. He tells us the truth about ourselves in a way that makes us frequently wince a little and makes some of us lie a good deal but our attention has been called to nothing from his pen, which is not worth the reading and which is not essentially true.

In a recent issue of the *Medical World,* a physician writing, said, among other things: "The patent medicines used by physicians, however, are not the kinds advertised to and used by the laity." Mr. Bok replying to this statement writes as follows:

"Will you pardon me if I say that I do not think the facts would bear you out? I wish with all my heart they would, but the fact remains that I have personally examined several thousands of prescriptions, and by the leading physicians, in which I found prescribed the patented medicines that are used by the laity. Even if the actual prescriptions did not bear out this fact, may I suggest that there is no more effective manner for a physian to start his patients in the use of nostrums than by prescribing them? I have known scores of cases where physicians prescribed patent medicines that were unknown to the patients and these patients have gone on using them when they should not have used them. Worse than that, they have recommended them to their friends with the remark: "I can save you Doctor ———'s fee, for I know what he will prescribe for you, just as he did for me."

PHYSICIANS USE SECRET PREPARATIONS.

"Only a week ago a prominent Philadelphia physician took a parent to task for allowing her child to take a certain patented article. 'My dear lady,' he said in evident horror, 'that medicine contains acetanilid and should never be given to a child. It is one of the worst heart depressants you can give it.' And then he launched forth on a tirade about the use of patented medicines. The mother was frankly bewildered, for only six months ago this same physician had prescribed exactly this same medicine to the same child! The only difference was this: he had since that time read the report of the Council on Pharmacy and Chemistry giving the actual ingredients of that particular nostrum! The simple truth was that he had prescribed this nostrum (to my knowledge at least a dozen times, for I saw his prescriptions) again and again to children without knowing that it contained acetanilid! And this is a physician whom you or anyone else would instantly name as one of the dozen leading practicians in Philadelphia.

"The lamentable fact is this: That the public is to-day, of itself, using fewer patent medicines than the doctors are prescribing; I make this statement advisedly. The deplorably high percentage of patent medicines prescribed by physicians, as voiced a few years ago by Doctor Jacobi, of New York, and Doctor Billings, of Chicago, still exist. I am not prepared to say, from positive knowledge, that they are as high, but I do say from personal knowledge that the practice goes merrily (yes, and deathfully) on despite all the efforts that journalists like Mr. Hapgood and myself have made to stop the use of patent medicines by the public. That effort was never ably seconded by physicians, and this sad fact is just as true to-day as it was during our campaign.

"Of course, you will at once bring up the old question, 'Do we entirely agree on the question, what is a nostrum?' Do you clearly differentiate between a 'nostrum' and a 'non-secretive'?' In other words, do I know what a nostrum is? Perhaps I do, and perhaps I do not. The question is immaterial, as applied to me, as I have said before in print. Personally, I think I know what a 'nostrum' is; I certainly should. There has been altogether too much hairsplitting over a proper definition of the word 'nostrum,' and whether the particular preparation is a 'nostrum' or whether it is a 'non-secretive,' and the whole discussion is as useless as it is evasive of the real point at issue.

DEFINITION OF "NOSTRUM."

There is a very single and simple definition of the word "nostrum" in its relation to physicians, and it is a definition that is accepted by the public, for the simple reason that the public believes that this is the present definition of the word by the average physician, whereas every intelligent physician knows that it is not. The definition is this:

Any preparation of which any physician does not know all the ingredients should be to him a nostrum. It makes not a particle of difference whether it is called a "nostrum," or an "ethical," or a "non-secretive." If he does not know the ingredients contained in that preparation, it is unknown to him; it is a secret to him, and, as such, it is a nostrum to him, and the lack of knowledge should prevent him from prescribing that preparation until he does find out, by personal analysis, by personal investigation, or by authoritative information through channels that are open to every physician, exactly what is in the medicine. In other words, a physician ought to know what is in a medicine that he prescribes; if not, he is prescribing a "nostrum" because to him it is an unknown preparation. There can be no compromise here, no middle ground regarding the only attitude that is at all scientific and honorable. Either a physician knows or he does not know.

KNOW WHAT YOU ARE PRESCRIBING.

"The trouble in this whole discussion, so far as the relation of the nostrum to the physician is concerned, is that too much time has been taken up with an attempt at proper classification of preparations, and not enough emphasis placed on the physician's individual conscience. There is only one question that the physician should settle: 'Do I know what I am prescribing?' If he does know, he is within his rights as an honorable practician; if he does not know, he is not.

"Why come to me and ask me to stop selling these 'patent medicines'? said a druggist to me recently. 'Stop the physicians from prescribing them and then we won't have to carry them. Look at this sort of prescription,' and he handed me six prescriptions calling for patent medicines advertised on billboards and in the papers and journals that still accept the advertisements of worthless nostrums. 'Here,' he concluded, 'is a prescription for a particular brand of so-called tasteless 'Cod Liver Oil' that every druggist knows is a pure fraud, which I do not even carry, yet I have to go out and get it, to fill this prescription, or else be charged with substitution, or with meddling with the physician's prerogative.'

"No, Mr. Editor, your statement wont hold water, and any careful investigation of the facts will prove you wrong. The doctors are prescribing the patent medicines that are 'advertised to and used by the laity.' I make the statement advisedly: also that scores of physicians are prescribing nostrums of which they do not know the ingredients.

"Fancy a physician of undoubted standing holding forth, to my utter amazement, before a clinic, on the efficacy of a certain preparation which a special published report of the Council of Pharmacy and Chemistry showed had been investigated and decreed as being 'perfectly worthless,' and then expressing surprise when I brought him the publication! What in the world can we expect of our younger physicians if men whom the young look up to, and have a right to look up to, advise them of a preparation of the ingredients of which they are absolutely ignorant?

"It has been a source of utter discouragement to me that in the campaign against the use of patent medicines which I projected years ago, so little real help and actual support came from the medical profession. It was deplorable. Exactly the same thing was true then, and is still true to-day, of the medical journals whose advertising pages this very day reek with advertisements that every decent magazine and newspaper refuses to accept. The advertising pages of any recent magazine of general circulation are more to be relied upon to-day for their censorship of patent medicine advertisements than the advertising pages of the average medical journal.

EDWARD BOK,
Editor *Ladies Home Journal.*

The Editor of the *Medical World* says that it is not read by the class of physicians that prescribe nostrums to their patients. The same issue of the *Medical World* takes advertisements of all the worst nostrums that have been exposed by the Council on Pharmacy and Chemistry from Dioviburnia and Ergoapiol to Coca-Cola, Anasarcin and even I-Own-A. These are only samples of a bad bunch of which, we feel sure, Dr. Taylor is ashamed.

Mr. Bok is right. The doctor who prescribes a mixture, of whose composition he is ignorant, is a criminal. We believe fewer Kentucky doctors are doing this than in any other state and we know that there is not a man who is competent of making a diagnosis and writing a prescription, who is guilty of using nostrums at all.

TO MINNEAPOLIS.

The *American Medical Association* will meet in Minneapolis June 17 to 20th. The round-trip rate from Louisville will be $28.00, from Elizabethtown $30.15 and from Bowling Green $32.10. Confer with your local ticket agent as to the rates from your own town. If possible, you should arrange to go via Louisville or Cincinnati, routing yourself to Chicago over either the Monon or Pennsylvania, and from Chicago to Minneapolis over the Chicago, Milwaukee & St. Paul Railroad. It is the desire of the Kentucky delegation to get together at Chicago for the 10 p. m. train on June 16th. This will be called the Medical Profession Special and will consist of the very finest and most modern equipment obtainable. Reservations on the Monon may be made by writing Mr. E. H. Bacon, Monon Route, Louisville, Kentucky, or the Pennsylvania by writing C. H. Hagerty, A. G. P. A. Louisville, Kentucky, or the Chicago Milwaukee & St. Paul railroad by writing to Mr. A. L. Eidemiller, 408 Traction Terminal Building, Indianapolis, Indiana. The JOURNAL office has already received a large number of inquiries in regard to this meeting and it is evident that a very large delegation will attend it. At the prices quoted above, this will be the cheapest Post-Graduate Course that any Kentucky physician can attend.

The sessions will be held in the great building of the University of Minnesota and it is a matter of pride with all of us that this session will be under the Presidency of Dr. J. A. Witherspoon, our distinguished Nashville neighbor, and Kentucky wants to help make his meeting one of the best that has ever been held.

The JOURNAL will be glad to be of assistance in securing reservations or hotel accommodations for any of our members who intend going.

SCIENTIFIC EDITORIALS.

TREATMENT OF WHOOPING COUGH.

Few people realize the danger attendant upon whooping cough. The cases last so long that we forget sometimes to trace them to their ultimate results so the various sequelae are not recognized as resultant from whooping cough. English and German statistics show us that there is very close relationship between tuberculosis and whooping cough; many of these cases are followed by enlarged bronchial and lymphatic glands which are favorite nodes for the implantation and growth of the tubercle bacilli. The writer has had opportunity to see several cases of tubercular meningitis in older children following upon this tubercular involvement of the bronchial and lymphatic glands as a result of whooping cough.

In bottle-fed infants the mortality is especially high and here the danger lies along the digestive tract, the respiratory tract and the nerve centers. In the digestive tract they suffer from the failing of nutrition because of the loss of food by repeated vomiting; also in the lower digestive capacity there is likely to be an up-set condition of the bowels so that in hot weather diarrhoea of a severe type may complicate the case if it does not produce a fatal terminus. Breast-fed infants, as a rule, have an easier time. It may be noted in passing that a tight band about the epigastrium frequently lessens or sometimes stops the vomiting. In the respiratory tract probably the greatest danger lies in the tendency toward pneumonia, which may be either of the lobar or lobular type; either one, of course, constitutes a serious complication. The violent coughing spells also tend to produce emphysema which is present more often than it is recognized. A long continued irritation of the bronchi and air cells permits the infectious material to find its way into the stomata of the lymphatics of the lungs which drain into the lymphatic glands situated along the bronchi and around the bifurcation of the trachea. The enlargement of these glands marks an effort to resist infection but at the same time makes them more vulnerable to tubercular infection. In the nervous system we find that the danger inheres in the violent convulsive paroxysms which are attended by some back pressure in the venous system and which occasionally result in hemorrhage into the brain or into the eye or ear. These are not so common as those that have been mentioned above but still they do constitute a great danger. The diagnosis of whooping cough before the convulsive stage is not always easy. Dr. R. B. Gilbert has called attention to one of the most suggestive symptoms and that is that the cough occurs at regular intervals and is twice as frequent at night as in the day time. If the child is old enough it will sit up in bed to cough, with its face and eyes suffused and swollen. The cough gets persistently worse until the convulsive stage at the end of ten days or two weeks. If one is careful in his examination he will be able to find a row of enlarged lymphatic glands lying along the sheath of the carotid, leucocytosis up to twenty-four thousand is a very characteristic and confirmatory sign. The history of exposure will also be of help.

The treatment of pertussis is much more satisfactory if the disease is recognized in the pretussive stage. Bordet seems to have discovered the bacillus which is the real cause of the pertussis, though this is not wholly agreed to. The treatment with vaccine made from Bordet bacillus is more successful when used in the very earliest stages of the disease. The dosage has not as yet been worked out; the usual dose is twenty-five millions given hypodermically and repeated in four to seven days. In the experience of the writer larger doses have seemed to give better results without any more constitutional disturbance. One can hardly regard vaccine treatment as being specific in the same way that the anti-toxine of diphtheria. But it seems to mitigate and shorten the course of the disease without bringing it to any rapid crisis. After the whooping is well established its results are not very greatly superior to those obtained by the well recognized drugs such as, bromides with antipyrine, quinine or calcium sulphid.

PHILIP F. BARBOUR.

PERFUMES IN ANESTHESIA.

For a number of years it has been my habit to inquire of patients what part of a surgical operation produced the greatest fear, in some terror, before the operation. I have been struck by the frequency of the statement that the anesthetic produced more fear than the operative work itself.

Why is this? Why should something terrify that soothes and renders painless, what would of necessity be a frightful ordeal? Why is it that one views the action of an anesthetic in such a light, when modern anesthesia has converted the operating room from a charnel house of screams, groans, and heart rending shock, into the quiet, dignified and placid room of to-day? Why is this? Is it because the passage of some persons under an anesthetic carries with it the associated idea of helplessness, an inability to wake to the ordinary, everyday stimulations, such as arouse us from normal sleep? It cannot be denied that to some it carries the strong suggestion that this is the sleep from which, perchance, there is no wakening and that in the oblivion of the anesthetic there may come an opportunity to learn, *if* it is to be learned, something of that world beyond, that has ever been the speculative domain of Christian and Pagan.

Is it sometimes a conscious or sometimes an unconscious *death complex* that really is the determining factor in the fear of anesthetics. Deep down in everyone's personality is the strong desire to live, oftentimes to live only because of the desire of life itself. In the vast majority of people, there is no desire to search for *nepenthe,* to gamble as it were, upon the future life, and this desire to live is undoubtedly a dominant characteristic of all animals and asserts itself consciously as well as unconsciously through the fear that is associated with the *death complex.* The riddle of the Sphinx has been solved, but the riddle of death, the riddle of unknown habitation that is darkness unless lightened by religious belief, possesses too much of a terrifying influence to the average human to break away from it and rise above its fears. Perhaps some go back in their unconsciousness to infantile memories and people the darkness with an apalling fear that reasserts itself at this momentous time, when the surgeon is preparing to take the life of his case in his hands, as the anesthetist is rendering him temporarily powerless, without sensation and without mental activity.

This is the day of psychology; it is piercing every specialty and domain of medicine like a wedge. The aroma of perfumes casts upon us a peculiar influence. Their associations are nearly all pleasant. They carry with them the roseate visions of flowers and of tender memories. They are indelibly associated with all of the sweetest and fairest in woman; it is essentially an association to the male of the opposite sex. It is this ability to soothe and quiet, to bring from the unconscious, hidden memories, to clothe the anesthetic and the knife with garlands of roses, that has brought the use of perfumes or aromatic odors into the art of the anesthetist. Into the visions of the patient comes not alone the reassuring words of the anesthetist, but the esthetic mental impression that the perfumes arouses, and in this way shock is lessened and the mental attitude of the patient better prepared to withstand the strain of surgical work. The anesthetist as a rule employs the oils of orange and lavender and instead of the first strangling feeling that ether or chloroform produces, comes the soothing and restful balm of the orange odor to the olfactory nerves and with his mind filled with pleasant memories, with the beautiful pictures evoked from these fragrant scents, slowly and gradually the added ether becomes tolerated to such an extent that amid perfumes the patient drops off into somnolence, a sleep without struggling, without choking and with memories far sweeter and far more beautiful than when the perfume is absent. Mental attitude has a great deal to do with resistenee, especially in one about to take or taking an anesthetic. Under the circumstances above enumerated, resistence is greatly lessened by "all the sweets of Araby" and in this way with resistanee lessened the anesthetist requires a smaller amount of ether so that there is less shock and less disturbance. In fact, if to the perfume is added that rare quality, a good and sympathetic voice from a man really and truly imbued with relieving terror, much can be accomplished by the persuasive eloquence and powerful suggestions of the anesthetist. Fear and dread fatigue people; they lessen nerve force and for this reason we can look for definite ehanges for the worse in the eells of the human brain. Heads wonderful experiments in fatigue have taught us many valuable lessons and therefore it should be made a practice to eneourage, to eheer, to explain, to reason, so that all dread, if possible, may be removed before the anesthetic is administered. Certainly in the slang of the day this line of work *"looks good"* and it is to be hoped that the anesthetist will continue investigation along these lines with an enlightened psychology to guide him, using his persuasion and logic, while at the same time he transports his patients, by the aid of perfumes, to a paradise of flowers.

CURRAN POPE.

Facial Paralysis.—In the case reported the seventh nerve was totally paralyzed, bilateral and crossed. This excluded the facial nerve as the source of the paralysis; at least it could not be a peripheral paralysis, and Finizia presents arguments to sustain the assumption that the seat of the lesion was in the cortex of the right hemisphere of the brain. The patient had a mitral defect, and the lesion causing the paralysis was probably some minute focus of softening from embolism.

ORIGINAL ARTICLES

WILL DR. FRIEDRICH FRANZ FRIEDMAN'S SERUM CURE TUBERCULOSIS?

By JACOB GLAHN, Owensboro.

To answer this foregoing question, we must first ascertain what tuberculosis really is.

We must put aside all dogmas of the schools and try to build an objective picture so any person of ordinary intelligence can grasp this meaning. That tuberculosis is an aetual condition we have to deal with within the physical organization, and this eondition can be met with in different stages, the incipient or acute —the progressive or subacute, and lastly, the gangrenous or chronic form of tuberculosis."

As will be seen, we have not to deal with a will of the wisp, which a single shot could annihilate, as little as a single initiatory shot from a cannon could win a great battle.

Tuberculosis, or consumption, has been, and is yet, the fundamental faetor of disease and decease of mankind, since Adam and Eve were expelled from Paradise, and the ablest minds since the times of Hypocrates have wrestled with this question of how to meet this disease "eonsumption," this melting away process of the cells and organs of the physical organism? And still death stalks through the land as steady as ever.

In modern times the germ theory has been so prominently put to the front, and with such vigor, that less timid men have barely the courage to try to explain the relation of the germs to the physical organization. For instance, the average daily normal feces contain this mind-staggering number, 53,124,000, of the different kinds of bacteria. How many more billions of all kinds of bacteria remain still in the normal body is mere speculation, but one thing is certain, they don't seem to do any harm to the healthy physical organization.

The bacillus tuberculosis, which belongs to these just named fifty-three billions of bacteria, has been *aeeused* by the medical profession *to be the direct eause,* the cause *per se,* of tuberculosis,—but this is erroneous. For the *bacillus tubereulosis can not live and grow in healthy tissue.* It *needs* a *special soil* to *live* and *grow in,* and this I will explain after a little deviation.

If the bacillus tuberculosis were the primary eause of tuberculosis, this world would be in a bad fix. Just think of what would become of our doetors alone! Not to speak of the balance of the human family. All physicians, bedside-practitioners, through their very calling and attendance upon tuberculosis patients, would at once take the disease and there could not be one doctor—physician of forty years, be living to-day. They would all have died of tuberculosis before that age, and all the younger physicians would be now in the different stages of consumption. This would be absolutely the logical sequence. There could be no middle ground.

That the bacillus tuberculosis plays a prominent part in tuberculosis needs no gainsaying, but in what manner he does that, we must look at the shadow side of our objective picture.

According to the law of evolution, all cells of the physical body reproduce themselves, the manner how is known to every reader of natural science, of course. All the cells of the human body are composed of chemicals, such substances as lime, iron, soda, magnesia, etc. etc. They are (metals) cell-salts, basic-salts. (Grundsalze.) These metals are chemicals and obey the chemical law of affinity to find their mates, and through the all-wise plan of God alone enter biologic processes and amalgamate with organisms to strengthen and sustain and fortify it.

If a person should for some reason lose his cell-salts in quality or quantity, or both, the effect would be quickly apparent; he'd become listless, weak, fall off, etc. Now, if this person would not take warning and try to recuperate, he would go on from bad to worse. The cells would reproduce themselves, but always become weaker, until at last the connective tissue would become demoralized.

The connective tissues are the binders, girders, joists and rafters of the physical organization, which hold the cells to their respective places and organs of the body. This demoralization (or should I say degeneration) of the connective tissues, then, is the actual beginning of the pre-pathological state of tuberculosis, for out of low organized tissue, which is trying to reproduce itself continuously, spring now still weaker and lower cells, —*they are pigmy and giant cells,* sprung in their last effort from the mother connective tissue cell. They spring up in little lumps and chains,—first a few and later in thousands all through the body. Now observe; "This last described condition is according to the law of evolution, the line of demarcation."

This tubercle cell, which is the lowest product of the mother cell of the connective tissue caused by a persistent chemical deficiency of the cell basic salts, in quality and quantity, in its endeavor to reproduce itself, *breaks down and forms an acid nest* in an *alkaline base,* for the *basis* of the *physical body is alkaline.*

This nest, the broken-down tubercle, is an acid-soil, the *home* of the *bacillus tuberculosis;* according to the law of evolution, the bacillus tuberculosis must become organized *spontaneously* out of this acid papulum *within* the *physical organization.* It is a unitary nondescript cell, not animal and not vegetable, it does not grow by segmentation or division, etc.,—it can only spring from that low soil *spontaneously* and *independently,* and when this foul (spoiled, yeast-like) acid acts persistently in a chemical manner and eventually gets the upper hand of the alkaline body, then organs become gangrenous, and death must destroy the body.

Incipient tuberculosis is being cured all the time by bedside practitioners in this country and abroad.

We are making headway along the chemical lines with the second stage, and with proper economic conditions there will be no third stage.

The replacement of the proper cell-salts in quality and quantity for a sufficient time, plus sunshine, rest, dry air, proper food, clothing, reasonable exercise everlasting hope and cheerful frame of mind will cure tuberculosis as described herein. Any medicines or serum which in a physiological sense is the same thing, must contain the principles described for the sustainment of the cells;—strengthen your cell, increase your alkalinity of the liquor sanguini, and the bacillus tuberculosis and its nest will be destroyed and carried out of the body, burned up.

If Dr. Friedmann's serum possesses these chemical potentialities in a biologic form, he will be successful in many cases—but not in all, for above stated reasons.

But time alone can prove the truth.

Golden Rules of Surgery—By Augustus Charles Bernays, England. This is the second edition of this volume of 265 pages, which contains a great deal of good information in condensed form. His manner of presenting the subject appeals especially to the busy man as he goes at it in a form of Do's and Don't's. This book is published by the C. V. Mosby Book & Publishing Company, St. Louis.

Protective Inoculation in Plague.—Experiments in this direction have demonstrated that vaccination does not afford the same protection against pneumonic plague that it does against bubonic plague in experimental animals. They indicate strongly that prophylactic inoculation cannot be relied on as even a reasonable means of protection against pneumonic infection in man. It would appear that a proper mask furnishes the only reliable method of protection.

SOME OBSERVATIONS ON FRACTURES.*

By J. Garland Sherrill, Louisville.

There is no subject within the domain of medicine which is more important than that of fractures. Yet it is one that is but seldom brought before a deliberative body such as this for consideration. The importance of this subject becomes apparent when we note that mistakes in diagnosis and errors of judgment are here recorded indelibly upon a moving and speaking *page* and are not like some of our mistakes consigned to oblivion. It is not our purpose to consider in detail all of the important points in connection with the subject since the scope of the paper does not permit, but an endeavor shall be made to point out some valuable advances that have been made within the last ten or more years in the management of fractures, some of which may not have been called directly to your attention—and to sound a few words of caution to any one undertaking this class of work.

The object of the treatment of a fracture is to obtain repair of the injury and restoration of function with the minimum amount of deformity, loss of time, and discomfort of the patient. To obtain these results most perfectly accurate apposition of fragments, restitution of contour, the prevention of redisplacement by complete reduction and proper appliance, and proper position, with rest, are necessary. When complete retention is said to be necessary, it must not be understood that some cases may not heal with perfect restoration of function without any retention apparatus whatever. In fact some propose massage and mobility throughout the treatment as a superior plan to any form of retention. That superior results obtain from such treatment seems quite fallacious. The few cases resulting favorably in the absence of proper adjustment and retention occur in spite of the management and not because of it and but prove the rule as regards the value of retention. We must admit, however, the contention that properly applied gentle massage employed at frequent intervals after the first dressing of a fracture will hasten a restoration of the circulation in the part, favor prompt healing, make the limb more comfortable, and when employed with very gentle passive motion will tend to lessen the muscular stiffness which so often follows the protracted employment of splints. When the line of fracture is placed near or within a joint it is important for the attendant to know when passive motion is to be instituted and when splints are to be discarded with safety. Much discussion has occurred upon this point and it may be considered as still subjudice. Dr. John B. Roberts, of Philadelphia, in a most excellent monograph upon "The Modern Treatment of Fractures," (D. Appleton & Co., 1899, p. 24) says: "If the joint is involved in the line of fracture passive motion at an early stage will not prevent ankylosis, but may increase it by causing a greater degree of arthritis; if the joint is not invaded by the fracture line early passive motion is not needed, because ankylosis will not occur unless violent inflammation of the soft parts arises, which inflammation passive motion is more likely to increase than to decrease. In accordance with this view no vigorous passive motion should be made earlier than two or three weeks in any case. The adoption of such motion earlier than this has often in energetic but injudicious hands, given much unnecessary pain, and perhaps in many cases increased the arthritis and subsequent stiffness. The degree of restoration of function possible after articular fractures is only determined after many weeks. Passive motion should certainly not be commenced while arthritis in acute, and not as a rule until union of the fracture is pretty well accomplished. When it is attempted the occurrence of arthritic reaction is an indication that it must be still longer postponed.

The permanent stiffness of articulations after fracture involving the joint surfaces is nearly always due to imperfect reduction of the fragments or to infective synovitis. Passive motion will not lessen the rigidity resulting from these causes. Massage and passive motion are, however, useful in nearly all fractures, by hastening absorption of effused blood and exudate, stimulating the nutrition, and keeping the muscles supple. They may be instituted immediately after the coaptation of the fracture, and be kept up during the entire period of treatment. Pain is an evidence that the passive motion or massage is doing harm, because arthritis exists or the movements are too vigorously employed."

In the writer's experience there has been a tendency upon the part of the profession to prolong the retention rather than to manipulate too early the injured part. Motion should be postponed until there is but small danger of refracture but not sufficiently long for muscular or articular stiffness to result. The passive motion need not be protracted, vigorous or painful. The pain will be much less when the manipulation is commenced early and if excessive it is presumptive evidence that it is not indicated. Just here it is well to remark that the restoration of function, especially in children, in cases of apparently complete ankylosis is remarkable. Many cases of troublesome neuralgic pain can be avoided by proper and early employment of massage, and passive motion.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

In order to properly treat a fracture it is necessary that the attendant should have a good knowledge of anatomy acquired from a study of the living as well as the dead subject. Fortunately the recent advances in medical teaching the percentage of competence of the average medical graduate is higher than formerly. Second it is necessary that he should give each individual case proper care and consideration. More errors are made from hurried and incomplete examination than from any other cause. Before beginning treatment of any case of fracture, the attendant should make reasonably sure of his diagnosis and if in doubt or if the case is puzzling should insist upon council, both for the protection of the patient and himself. He should never neglect an examination of the sound limb for comparison, remembering to make inquiry as to previous fractures.

The symptoms of fracture are classic and in uncomplicated cases the diagnosis is easy, but in the neighborhood of joints, in the skull, in certain forms of fracture in the long bones where fragments are impacted or where no deformity or mobility exists, it is quite difficult. In these cases much stress is placed upon the value of localized pain on pressure. Here, too, one of the recent advancements in surgery gives most valuable aid to a diagnosis, and that is the employment of the Roentgen ray. Many cases that were obscure formerly have been cleared up by this method. A number of cases formerly treated as sprains of the joints are now known to have been fractures. The line of fracture and the direction and extent of the displacement can be positively determined by the flouroscope in superficial bones, as well as by the skiagram. Reduction may be assisted by the operator using the flouroscope while making the adjustment. It is well to note, however, that if a skiagram is taken in only one plane that it is quite possible for an erroneous impression of the existing condition to be obtained. In one direction the plate may show apparently perfect alignment, while in another direction considerable displacement may be shown. The skiagram makes positive what may be only a surmise without it. Unfortunately in many cases it is not accessible.

When the diagnosis is accurately made replacement and retention becomes to a large extent a matter of mechanical skill and judgment. Before undertaking care of a case of fracture the attendant should protect himself by stating that while he hopes for a favorable result yet stiffness of joints and slight deformity or neuralgic pain sometimes are unavoidable. Do not understand me to say that the patient and his family are to be needlessly alarmed, but it is unwise to promise complete and perfect recovery. Fortunately for the attendant there is no structure in the body in which repair is more perfect than in bone. Here it is well to mention a study of the repair of bone made recently by Sir Wm. McEwen which apparently controverts the old belief that the periosteum was an important structure in the reformation of bone. McEwen claims that the periosteum instead of having osteogenetic power is only a limiting

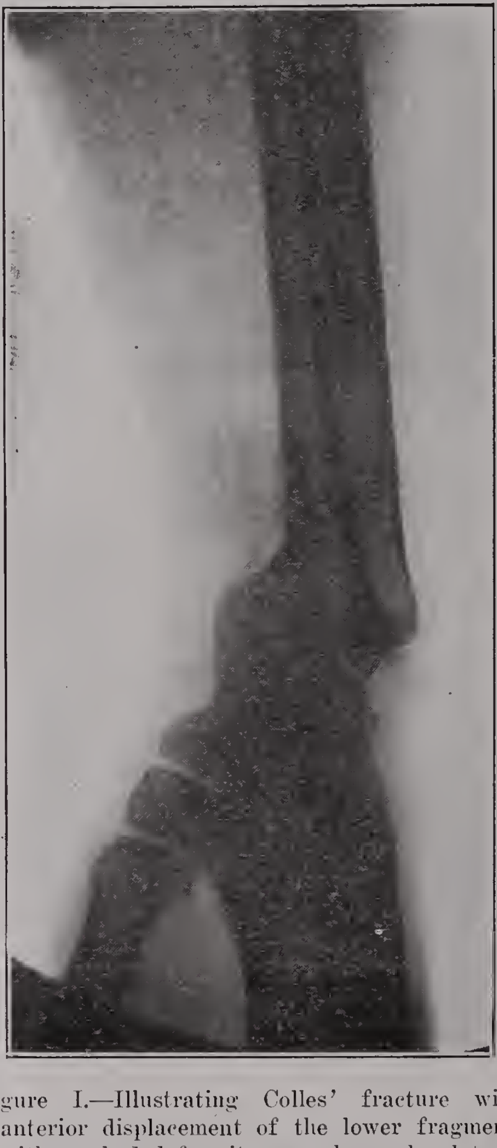

Figure I.—Illustrating Colles' fracture with anterior displacement of the lower fragment, with marked deformity, as shown by lateral exposure with but slight displacement antero-posteriorly.

wall to prevent the spread of the new bone cells beyond their proper location, and that the apparent bone production from its inner surface really springs from the osteoblasts pulled away from the bone as the periosteum is stripped away from the cancellous tissue. He has obtained growth and restoration of bone after resection, the ends being held within a glass tube to avoid contact with the periosteum.

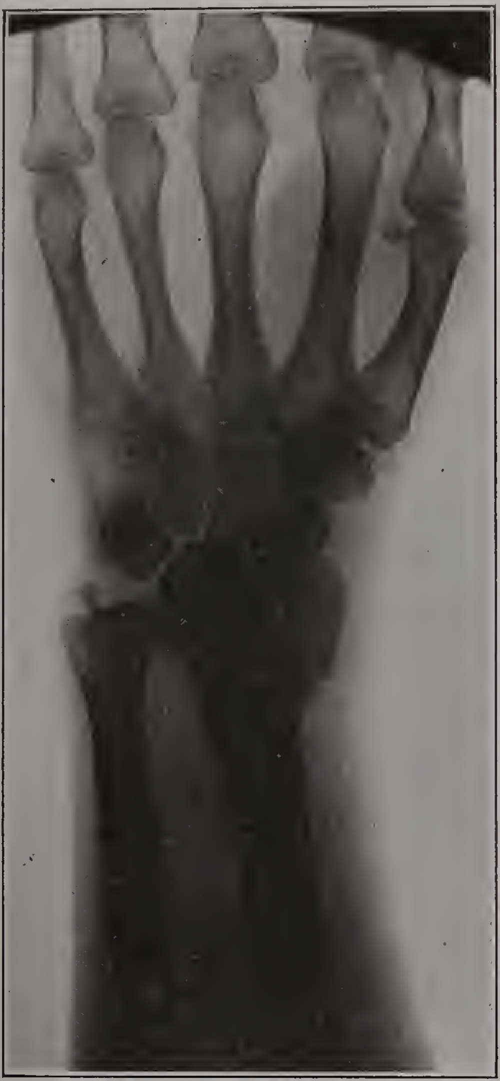

Figure II.—Illustrating Colles' fracture with anterior displacement of the lower fragment, with marked deformity, as shown by lateral exposure with but slight displacement anteroposteriorly.

Some discussion has obtained in recent years concerning the propriety of open operations in a certain limited number of recent fractures. Allis and Jno. B. Roberts, of Philadelphia, McBurney, Dennis, Lane and others have recommended open incision in certain fractures. In properly selected cases when the indications are clear and where the technique of the surgeon is developed practically to the point of perfection there is no better method of treatment. The old dread of making a closed fracture an open one because of the danger of infection no longer obtains. It is just as certain, however, that open operation in this class of cases should be studiously avoided by the careless surgeon who constantly breaks the rules of asepsis. An aseptic incision down to a fracture even if leading to a joint is devoid of risk further than that incident to the anesthesia which in many cases is wisely employed to make a diagnosis and to effect replacement. No surgeon of average skill hesitates to cut down upon a recent compound fracture to cleanse the wound of blood clots and foreign bodies. Nor does he hesitate to open up and freshen the ends of bone in cases of delayed union or ununited fracture. Why, therefore, should timidity exist in cases where the indication for interference is clear? I would ask that you do not for a moment conclude that I am urging the universal or indiscriminate employment of open incision in all or most cases of fracture. In fact the number of instances in which it should be employed is comparatively small. I do believe with Dr. J. B. Roberts, however, that when the indications are clear it should be an accepted plan of treatment. To illustrate how easy it is to keep sterile a wound leading down to a fracture I need but call attention to several cases in which I have employed Parkhill's clamp to retain the bones in apposition, and also cases of fracture of the skull and fractures of the patella. Either of the latter forms of injury would likely be promptly fatal if infection occurred, yet they are daily opened with safety. Parkhill's clamp consists of four upright pins which are driven into the bone fragments so that the approximation may be held firmly with the least danger of the pins becoming loosened. These pins are from two and a half to three inches in length and extend through the wound edges to the surface where they are held by metal bridges and a firm clamp. The wound is coated about the pins and a voluminous dressing applied. Healing occurs per primam. This is mentioned but to show the safety of a careful technic of open incision in these cases.

When should one employ the closed and the open method of treatment? It is needless to say that no patient should be subjected to a cutting operation unless there is some clear and distinct reason for such procedure. This I believe would be accepted as an axiom without argument, no matter how many and cogent reasons one might offer in support of the simplicity of interference. The inherent dread that every individual feels toward a cutting operation makes it advisable that the simpler methods of the treatment of fractures should be employed even though the result may perhaps not be quite what it would theoretically be from an open operation. In fact it is well known that excellent functional results often are obtained when the approximation is by no means perfect. Dr. Roberts says: "My advocacy of cutting down upon closed fractures is limited to cases in which ignorance of the exact lesion, impossibility of reduction, imperfect immobilization, or failure to deal efficiently with complicating lesions makes the incision the less of two evils. An aseptic incision is almost devoid of risk, even if it opens a joint; but that slight risk should not be added to the patient's burdens unless the probability of deformity, of interference with joint movements or other functions, of pain, of paralysis, or of non-union justify it. Here, as in all departments of surgery, it is the surgeon's duty to exercise care and good judgment in selecting the method of treatment. To illustrate my meaning I cite fracture of the patella, which I have never treated by incision and suture of the bone, because I have thus far always been able to satisfactorily bring the fragments together by hooks, subcutaneous suture, or splint. In one or two instances I have almost decided to lay open the overlying tissues in order to obtain approximation by direct appliances, but I have finally not been obliged to do so. The open operation I believe to be legitimate, and probably needful in a very few selected cases, but I am opposed to it as a routine treatment. It is self evident that the wound exposing a fracture must be aseptic, and that the operator who adopts incision must be familiar with the steps to be pursued at the inception of infective inflammation. A man who will hesitate to reopen the wound or drain the joint, at the moment septic premonitions show themselves, should associate a more energetic surgeon with himself in such operative treatment of fractures. The risk of incising muscles and opening joints, if done in an aseptic manner by an operator familiar with truly aseptic and antiseptic surgery, is unquestionably very slight. Primary union without disturbance of joint-function will be almost universal."

With this opinion I am fully agreed. I do not agree, however, with him upon the treatment of fracture of the patella, which he says he has never treated by the open method because he has been able to satisfactorily bring the fragments together by hooks, subcutaneous suture or splint. I have tried both the open and the closed method in these cases and am positive that the former gives by far the best results as shown by prompt recovery and return to work, freedom from pain during the treatment and a perfect restoration of function. He claims the following advantages for the open method:

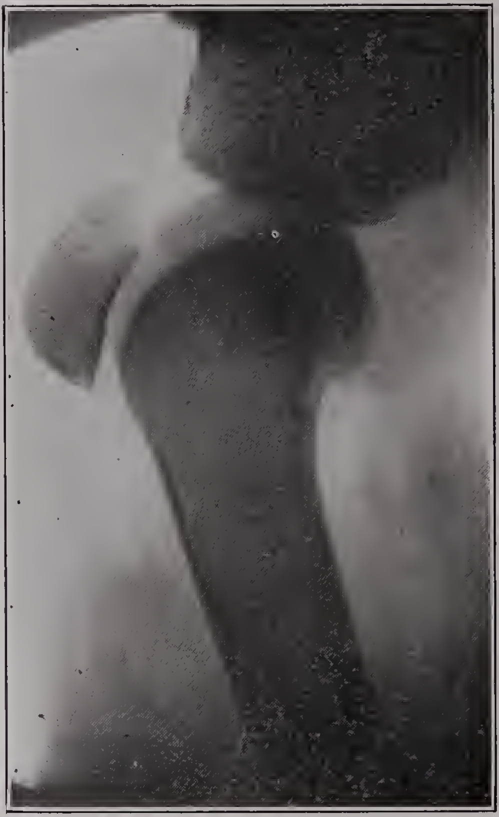

Figure III.—Illustration of union after fracture of the patella, treated by suture of the quadriceps tendon.

"1. The exact lines of separation can be seen, and the significance of lines of comminution in relation to subsequent reconstruction can be fully appreciated.

2. Coaptation need no longer be guessed at by the sensation imparted to the examiner's fingers, separated as they are from the bone by varying thicknesses of muscle, fat and skin; nor need it be dependent upon the possibility of having conveniences for taking a skiagraph.

3. The fragments can be accurately fitted together, torn periosteum replaced, and muscular and fascial bands, nerves and muscles disintangled from undesirable positions between the pieces of broken bone. This prevents deformity by permitting restoration of normal contour of the limb and lessens occurrence of non-union, neuralgia, atrophy, and ankylosis.

4. When the osseus, muscular, and vascular relations have been restored, they can be perfectly maintained by the application of sutures, pegs, nails, screws or ferrules to the bone, and sutures or ligatures to the muscles, nerves, and vessels.

5. The pain, due to extravasation of blood, rapid inflammatory exudation, or traumatic synovitis, is relieved by the removal of the clots and leaking out of exudation and synovial fluid. The interstitial pressure caused by extravasated blood and exudate has often heretofore caused surgeons to split the skin and deep fascia by long incisions, in very bad fractures, in order to avert threatened gangrene. A similar relief of tension in less urgent cases will undoubtedly lessen pain and suffering, though such operative treatment would ordinarily not be adopted. The incisions employed to uncover the fractures are therefore indirectly of value as relievers of pain.

6. Pain is also lessened, in the few cases requiring direct retentive apparatus, because the sutures, nails or screws prevent motion between the fragments better than external splints. Muscular spasm or incautious movement has therefore little opportunity to cause suffering.

7. Fat embolism is probably less likely to occur in fractures liable to its occurrence, if early escape of the fatty debris is permitted by incision.

8. Ankylosis from faulty position of fragments, irregular formation of callus due to stripped-up periosteum, and gluing down of tendons, will seldom occur after the fracture has been disclosed to the scrutiny of a competent surgeon.

9. Repair of the broken bone and functional restitution of the surrounding tissues occur more rapidly than when coaptation is imperfect, or when damaged muscular and other structures are left to the unaided efforts of nature. Impairment of digital movements after fractures is probably often due to coincident rupture or laceration of muscles, which might have been repaired by suturing with catgut, if the surgeon has known of the existence of the complication. The aseptic wound affords him this opportunity; and afterwards usually heals so rapidly that it is of no disadvantage to the patient's period of convalescence. This early restoration of wage-earning capacity is of great value to many patients.

10. It not infrequently happens that a closed fracture seems to have been well set, and to have little deviation from the normal; and yet the patient has lost some of his availability as a machine. This is most likely to occur in the lower limb which, during locomotion, carries the entire weight of the man. A slight change in the axis of a bone or in the plane of an articulating surface may perhaps throw the weight upon the hip, knee, or ankle in an abnormal way, and induce a considerable and ever increasing disability. This contingency is usually avoidable after the accurate inspection of the injured bone permitted by uncovering the fracture by an incision."

Again, when are we to open recent fractures? All cases of simple fracture which can be properly approximated and whose deformity can be corrected (anesthesia being employed if necessary), should be treated without operation. Those fractures about the joints where replacement can be obtained with a fairly good hope of a restoration of function should be treated in the same way. In case of fracture of the patella I should strongly urge interference. In cases of fracture of the olecranon where the fragments could not be approximated even after tenotomy, and in cases of fracture of the condyles of the humerus or of the femur where deformity could not be overcome, open fractures of the skull with distinct indication for exploration. In gunshot and all forms of compound fractures and in simple fractures with considerable subcutaneous hemorrhage endangering the integrity of the limb, and in fractures complicated by dislocation, where reduction is impossible, operate. In all cases of non-union, save perhaps that of the femoral neck in the very aged, operation is indicated and the results will be good. Many instances occur where the employment of wire nails driven through the skin to fasten two oblique fragments of bone together is quite satisfactory. Processes broken off from the bone can be fastened in the same way. Another aid to replacement that is not perhaps employed as often as its value would seem to indicate is the tenotomy of tendons which produce deformity. By careful attention to the position in which the limb is placed, as flexion of leg in fractures of tibia and fibula, also flexing leg and thigh in fractures of upper portion of femur, one may in most cases avoid the necessity for tenotomy. In impacted fractures with but one exception, that of fracture of the neck of the thigh, the impaction should be broken up to avoid the deformity which almost certainly results unless this is done. In fractures at the lower end of the radius this is especially necessary since in no other way can the deformity be overcome and the function restored. After the impaction is released there is but little tendency to redisplacement and the result is much improved.

In cases of green-stick fracture the bone should be bent until the deformity is corrected. There is in my opinion one exception to this rule and that is found in some instances of green-stick fracture of the clavicle in children. Here, unless the deformity is very great, it is a good plan not to fracture the bone entirely through but partially correct it without breaking, since the deformity is likely to be much greater after complete fracture owing to the difficulty of retaining the ends in apposition. In cases of fracture of the clavicle where the inner fragment persistently overrides—tenotomy of the cleido-mastoid will overcome the tendency.

In the employment of a retentive apparatus one should be selected that is simple but effective. Various kinds of splints can be employed, the best are those which can be fitted directly to the limb. Binders board, wire, or gypsum moulded splint, or wooden boards may be employed. It is well to avoid the use of a roller bandage applied directly to the limb as was formerly done to control swelling and muscular spasm. The danger of constriction is too great. Before applying any splint, especially in the lower extremity, one should assure himself of the pulsation in the main artery, as a protection against gangrene. The splints should be properly padded so that no undue pressure results in ulceration, or what is much more serious pressure paralysis. Moulded plaster of Paris splints fit like the skin—equally all over—and need but little or no padding. Circular plaster of Paris dressings to the leg should be applied, after the primary swelling subsides, over a thick pad of cotton, or if applied primarily, unless under immediate supervision of the attendant, should be split its whole length on the dorsum. In my service at the City Hospital a number of years ago, two cases were brought into my ward suffering from gangrene apparently due to an improper application of a plaster cast. In any event we could not establish an opinion that the gangrene was due to the *injury alone.*

We strongly urge frequent inspection of fractures, especially during the early and later time of treatment. The first to avoid deformity, the second to promote restoration of function. If the surgeon sees his patient often no suit for malpractice can hold. Before leaving the subject permit me to say that it is essential to refuse to assume responsibility in these cases if denied jurisdiction.

Space permits but brief mention of a few points in connection with certain special fractures upon which emphasis ought to be placed. The impression has been prevalent that in fractures of the nasal bones after replacement, it is necessary that some external appliance, as adhesive plaster, be placed over the nose to keep them in position, when in fact there is only the slightest tendency to displacement of the fragments when once properly placed, and the application of plaster to the nose can only benefit the patient by making him think that something has been done to relieve his injury. I have found that by passing a grooved director well back into the nostril and lifting the fragment forward the replacement is easily accomplished and that its retention is a simple matter. Very seldom, in fact, is it necessary to have a plug in the nose.

In the treatment of a fracture of the clavicle that form of appliance must be employed which will hold the shoulder upward, backward and outward without being irksome to the patient. I have found that the Sayre dressing is very useful and have avoided the excoriation of the skin which frequently occurs in connection with it by surrounding the upper arm with a flannel roller about which the adhesive plaster may be passed; care must be exercised to avoid constriction of the blood supply of the arm. Where there is a great tendency to overriding of the fragments, the tilting of the anterior fragment can be over come by a subcutaneous tenotomy of the cleido-mastoid muscle. In young women who are exceedingly anxious to avoid deformity and who are willing to remain in bed for two weeks or more, recumbency with a small pillow between the shoulders and a sandbag over the injured shoulder will effect a very beautiful result.

In fractures of the shaft of the humerus, in my opinion there is no dressing equal to the Stromeyer cushion or a pad of towels along the chest with the arm bandaged to the chest. The forearm should be placed in a bandage and placed in a sling at the wrist, thus allowing the arm to make extension at the elbow and prevent the overlapping of fragments.

There are no fractures of more moment to the surgeon or that will cause him more worry than those about the elbow joint. Ankylosis occurs in quite a large percentage of cases and is due either to displacement of fragments of bone or to the production of an excessive amount of callus as a result of the periosteum being torn away from its attachments. It is remarkable how great an impairment of function will result from a very minute deposit of bone in either the elecranon of coronoid fossa of the humerus. A quite considerable impairment of function at this joint occurring in children is frequently overcome by time. The results are less favorable in the adult. A very important point which must not be overlooked by the attendant is the retention of the normal outward deviation of the forearm from the line of the arm. This so-called carrying function must be retained, otherwise the patient will exhibit what is known as the

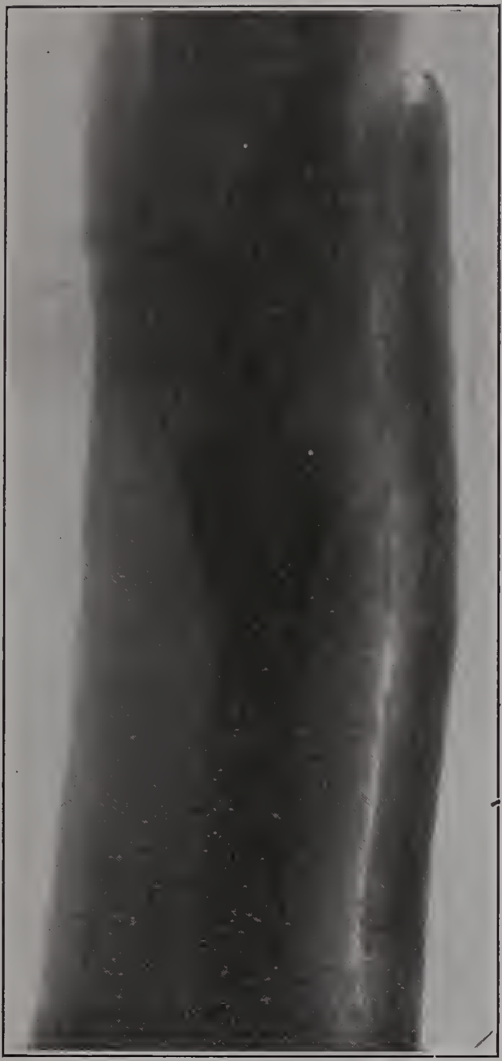

Figure IV.—Illustrating the proper replacement of a Colles' fracture.

gunstock deformity, which is quite unsightly and greatly reduces his efficiency. This deviation of axis may result from the fracture of either condyle or from what is known as intracondylar fractures and must be constantly borne in mind when treatment is applied to such an injury. In my experience fractures of the lower extremity of the humerus can in the majority of instances be very satisfactorily treated by full flexion, the arm being held in this position by an adhesive bandage. This dressing is simple, it allows the attendant to inspect the joint easily, and allows the patient to get about comfortably. It should be changed at the end of a week and the joint moved slightly and any deformity corrected, and then replaced. In "T" fractures, intracondylar, there may be some difficulty in getting proper replacement in this position; if so we would advise that the arm be treated for a week or ten days in an extended position. In the latter position the ligament on either side tends to pull the small fragments down into proper position. In cases where it is impossible for these fragments to be replaced and kept there by simple apparatus, it is quite feasible either by open operation or by the use of transfixion pins to obtain proper coaptation.

Fractures of the olecranon are at times very troublesome to handle. In many cases good functional result may be obtained by placing the limb in almost complete extension for ten days and then in semi-flexion, the small fragment being pulled downward by bandages. A better result can undoubtedly be obtained in this fracture by the open operation, yet it must be done only by the most competent surgeons.

In my experience fracture of the patella can be best treated by an open semilunar in-

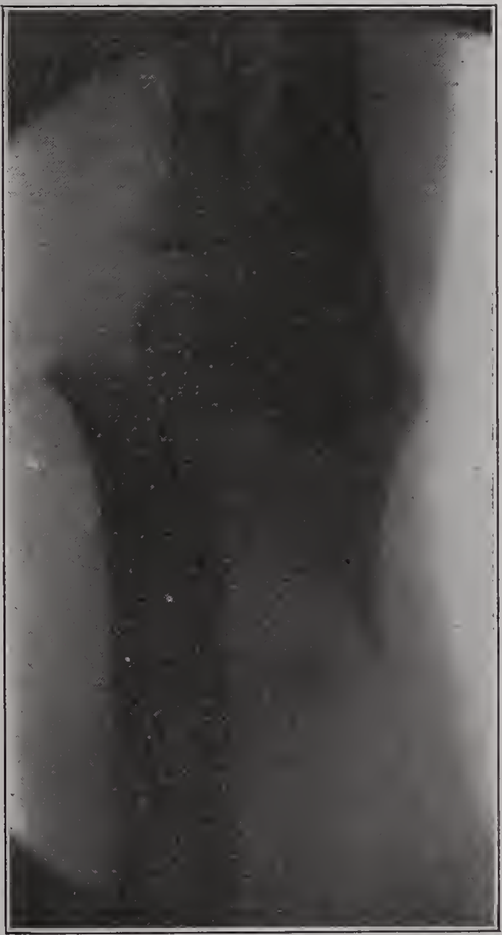

Figure V.—Fracture through the condyles of the Humerus with marked separation of the internal condyle (in extension), readily corrected by full flexion.

cision below the joint in front. After removing particles of blood clot the torn fascia of the quadriceps is brought together by means of catgut sutures, the skin wound closed and the limb enveloped in proper dressing and plaster of Paris cast. After two or two and a half weeks the cast is removed and slight movement made, the cast being replaced. At the end of a week or ten days the patient can be allowed to go about on crutches. The functional result is fine.

Fractures of the neck of the thigh, if impacted, should be treated in the simplest way possible, and I have found that to be accomplished best by the use of sandbags. When impaction is present, as shown by a shortening of more than an inch and a quarter, the treatment can be made very satisfactory by the use of Buck's extension and sandbags. At the end of the third week the patient should be allowed out of bed and should be placed in the sitting posture or semi-sitting posture on the second or third day after injury. In some instances I have at the end of ten days employed the use of the plaster of Paris cast, but in the majority of cases I have found the best results to be obtained by the two methods first mentioned. If a plaster of Paris cast is employed it may be applied early according to the method of Whitman, which I consider is far superior to the old-fashioned method of applying it in the straight position. In Whitman's method the limb is dressed with the thigh in abduction and partially flexed, use being made of the ligaments on the inner and inferior portion of the joint to draw the lower fragment against the upper. Another advantage of this method over the old way of applying plaster of Paris lies in the fact that the patient can very shortly be propped up in bed in a comfortable position. Senn formerly employed a compress with a screw fastened to a piece of metal in the cast to force the trochanter inward, thus bringing the two fragments together, a method which has not been very generally adopted. More recently there has been a proposal to transfix the fragments with a metal pin. In my experience fragments of the neck of the thigh do not by any means result so disastrously as we have been taught.

DISCUSSION.

A. D. Willmoth, Louisville: I do not think any more important paper will be read before this body at this session than the one that has just been read by Dr. Sherrill. It is important from many standpoints. It is important, first, because those of you who do general practice and do not devote all of your time and thought to the field of surgery see the most of these cases. It is important from another standpoint, and that is that fractures are present or occur in a class of people by whom we are most often sued for malpractice after we have done our best to give them a useful limb after having received some form of injury.

Dr. Sherrill has alluded to some very important points in his paper and I am sorry the time allotted to him did not permit him to read the entire paper. The first point he alluded to of special interest was the tight dressing. He referred to the application of the roller bandage around the arm or around a limb, and also about seeing the case after the injury. It is especially important that you see the case frequently, that you watch it for twelve or twenty-four hours after you place a bandage around the limb or any form of dressing on it for fear that something may happen in the way of constriction of the return blood supply. Many suits have been brought against surgeons and against doctors for damages where a so-called Volkmann's contraction has occurred and believed to have been due to too tight dressing. All of our text books at the present time, so far as I am familiar with them, try to get around that point. They tell us that this contraction is the result of tight dressing. We know from reading the medical journals and from the men who have discussed this condition and observed it, that it is not the result of too tight dressing at all. I see these cases and I may be called upon to testify in a case where Volkmann's contraction has occurred. You likewise may be called to testify in such a case at sometime. I recently operated on a case, where too tight a dressing was put on the arm. The dressing has nothing to do with Volkmann's contraction. I saw a girl with a typical Volkmann's contraction who never had a dressing put on from the time she fell.

He alluded to the position of the dressing on the forearm but did not say anything about the position of the arm. In all fractures that occur more than 2 1-2 inches below the elbow joint, if you put the arm with the palm of the hand looking the patient in the face, you will get an excess of space between the bones that are open and you are less apt to have union between the two bones as a result of the fracture. Where a new callus is poured out, if you have union between the bones, if you put up the fracture in the old way with the back of the hand looking the patient in the face, you get union between the two bones and the patient loses supination and pronation of the hand.

The next question is with reference to wiring bones or the use of bone plates. I was glad to hear the essayist speak of that in a conservative way. In fact, he stated in his paper that he did not favor the application of bone plates except in particular fractures. For sometime the application of bone plates waxed warm and the enthusiasm for the opening of fractures and the application of some mechanical device to hold the fragments in place was very great, so much so that it caused us to believe that many good surgeons all over the country, particularly Lane, was advocating the opening up of nearly all fractures. The moment you open up a fracture and convert it into a compound fracture you have to assume an enormous responsibility. However clean you may be, you may not be able to control the infection, and infection in a compound fracture complicates the case.

W. E. Senour, Bellevue: I have listened with considerable interest to the excellent paper of Dr. Sherrill regarding fractures. He has truthfully said that this subject does not receive the attention its importance demands. Since the introduction of the X-ray we find many cases, as he has stated, that were treated formerly for sprains which were really fractures as shown by the use of the X-ray. I do not believe that the X-ray is utilized as much as it should be in determining the character of fractures. We know by its use we can determine the position of the fragments and the direction of the misplacement, and by knowing the relation of the parts we are better able to adjust them, or to reduce the fracture. I believe there should be a more systematic use of the X-ray for this purpose. When a case enters our office it should be X-rayed, and when that patient is discharged as cured, it should be X-rayed and a correct record kept of the conditions existing at that time, and also after the fracture is reduced. In this way we obtain data of great value to other practitioners of medicine. Our statistics are not reliable because of the fact that they do not take into consideration the end results, but only the primary conditions.

I want to emphasize another point which was made by the author of the paper, and that is with reference to the open treatment. Much has been written pro and con in recent months concerning the value of the open treatment. I agree with the position taken by the Doctor very largely with reference to this matter. I want to speak of the time of the operation. I believe when you first see a case of fracture it is not wise to perform the open method. I care not how able or skillful a surgeon may be, the tissues at that time have a low resisting power, having suffered from traumatism. After four or five days has elapsed coffer-damming has taken place, the tissues are in better condition to resist infection, and I believe our results are far better if this delay is accomplished than if the open operation be done immediately.

I want to thank Dr. Sherrill for this paper, as I think this subject is one that has been very much neglected.

George A. Hendon, Louisville: I did not get to hear Dr. Sherrill's paper, which I regret very much, but there are one or two things I want to say with reference to the treatment of certain fractures, more particularly fractures of the femur, humerus and radius.

There has been recently brought out and developed a suspension treatment for fractures of the lower extremity which I have applied with a great deal of satisfaction. It is a method that has been developed by Dr. Brown, of Birmingham, based upon the principle of the old Hodgen splint, with a vast improvement and very much simplicity. Its application extends to any fracture of the lower extremity above or below the knee. My experience, however, with it only includes fractures of the hip-joint and other fractures of the femur.

This apparatus consists of a small iron wire about 3-16 of an inch in diameter, which can be bent and fastened around to make a hammock to suspend the leg. Then attached above to a common draw scales and the limb confined in the hammock on a canvass by longitudinal trips of adhesive plaster. I have one of these appliances in my office and shall be glad to show it to any one.

The point of greatest interest in connection with this appliance is the comfort of the patient. Formerly, I was a strong believer in the use of plaster of Paris and in the results of plaster of Paris treatment, but the comfort of the patient is much greater when the hammock is used that I have discarded the plaster dressing.

The other fracture I want to speak of particularly is fracture of the elbow joint. I have in the last few years confined my treatment of this fracture entirely to the position of acute flexion. I find that acute flexion will govern any fracture of the lower end of the humerus except transverse supracondyloid fracture. It covers the Y-shaped, it covers the T-fractures, it covers fractures of both condyles. It does not include fractures of the olecranon or fractures of the head of the radius. I would have the arm placed in acute flexion, with adhesive strip around the wrist and up as high under the axilla as can be gotten, and the arm confined to the side of the trunk with what is known as the Lund bandage, which is composed of several thicknesses of cheese cloth folded to a width of five inches in figure 8 form wrapped around the body. With this we get admirable results, and after trying it in a number of cases, I am very much pleased with it and feel it is worthy of recommendation.

The other fracture I want to mention is the common one of Colles'. I have found that there is one peculiar thing about a Colles' fracture, and that is, if it is ever reduced once, it stays reduced, regardless of the manner or method of dressing. It has been my plan in reducing a Colles' fracture, after I think I have it reduced, to try to throw it out of place, the patient being under an anesthetic. You cannot reduce a Colles' fracture without the aid of an anesthetic. There is no use in trying to do so. It is impossible. If the deformity reappears after you think you have made the reduction, you have not brought the fragments in line. If the fragments are once brought in alignment, they will remain that way regardless of the character, size, or shape of the splint you apply and the result will be good.

A. Scaggs: With reference to Colles' fracture, I have treated a great many of them. I have given an anesthetic but once in my life. I have never had a deformity following the reduction of a Colles' fracture. If it is the right hand, I catch the hand just as though I was going to shake hands with the patient, and bring it this way (illustrating), bring the extension on at this point (indicating), using the ulna as a fulcrum and the hand as a lever, bringing it the way I show you, and slipping it back immediately in place. I have never had any trouble in my life with one of these cases. With the left hand, I catch with my left as the right with my right and press the fragment back in place with the palm of my right. I have never had a particle of deformity in a case of Colles' fracture. The first one I ever saw reduced was reduced in that manner by Professor Pinkney French. The patient was a lady who had fallen on the sidewalk and sustained a Colles' fracture. To my mind it is one of the easiest fractures I have ever treated. Most any kind of dressing to make slight pressure on back of wrist over the fragment and be comfortable to the patient is alright.

Speaking of fractures at or near the elbow joint, I had one case unfortunately in my own family. My little boy fell and fractured the inner condyle. I got hold of the case immediately. In flexing the arm, when I got the fracture reduced, and went to flex the arm the fragment would become displaced. I found it would stay in place better when the arm was not exactly straight but slightly flexed. I put it up in plaster of Paris, allowed it to stay seventeen days before I took it off, then it was taken off and passive motion begun. The boy's arm to-day is as perfect as if it had never been fractured. These fractures are mean things to deal with in my opinion, especially if it is several hours before you get to see the patient.

I was called to see a patient who had a fracture of the lower end of the humerus, the fracture having occurred twenty-four hours before I saw the patient. There was a great deal of swelling, and with all the hot applications we could use for three or four hours I could not get the swelling reduced very much. The last time I saw the patient there was quite a callus and I could not flex the arm. It was about seven weeks since the operation was done, and that was only a few days ago. There was a callus on the front side more than on the back. This case occurred in the country, and we did not have an X-ray examination made of the fracture. The boy was put under an anesthetic, the fracture reduced, and the arm put up in flexion, yet a callus remains there. I have had a great deal of trouble about the elbow joint. The greatest trouble I have had with fractures of the lower end of humerus is where they involve the depression for the processes of the forearm bones. Here the callus or distortions interfere with flexion and extension of the elbow.

I like plaster of Paris dressing for a fracture, because I can make it to fit the parts so well. I can make pressure over the parts I want held in place, and press the dressing in on parts or fragments which I want held firmly in place, and after the plaster of Paris is set it maintains the pressure just as I have made it. I always pad the parts well before I apply plaster of Paris, and take care not to put it on too tight. So I never have any trouble about the dressing getting too tight and interfering with circulation.

In case of fracture at or near the joint, I take off the cast in fifteen to seventeen days and begin passive motion and use an adjustable internal angular splint for elbow or knee.

R. H. Moss, Henderson: The use of the X-ray goes without controversy in the diagnosis of fractures. There is one other diagnostic point I would like to emphasize, it is always accessible and I find it to be one of the most important diagnostic measures we have, and that is pain. A careful, systematic search for pain will clear up an obscure diagnosis. It can be produced by longitudinal or transverse pressure, this maneuver producing pain in a certain localized area, as Stimson has brought out, is pathognomonic of fracture. I saw that beautifully illustrated in a fracture of the hip night before last. In fractures of the forearm pain is elicited by supination and pronation.

My own studies as to the function of the periosteum have brought out one point that was incidentally mentioned by the gentleman who spoke of the production of callus. When the periosteum is stripped up, there is a less free field for the production of exuberant callus, and that is the reason the child had an excessive amount of callus on the front of the humerus. Where the periosteum is not stripped, you have a minimum of callus formation, but where it is stripped up considerably, you have the excessive formation of callus.

Another point I would like to emphasize is with reference to Volkmann's ischemic paralysis. Dr. Willmoth spoke of it as never being produced by a tight bandage. We know from the studies of Leonard Ely and others that it is not always produced by pressure upon the nerves. In some of the cases that have been operated upon, for months afterwards, when the nerves have been liberated very good results have been secured; yet it is an indisputable fact that too tight dressings will cause Volkmann's ischemic paralysis, and the damage is done in a few hours, and it is practically irremediable. When you have Volkmann's ischemic paralysis it is caused by thrombosis and tearing of the vessel, with an immense amount of oedema where tissues are unyielding. Several of these factors have to be considered. I would not be so rash as to say that Volkmann's ischemic paralysis is never caused by too tight a dressing. It is a condition akin to rigor mortis, and there are different conditions that bring it on.

The gentleman who has never had a deformity following the treatment of a Colles' fracture is to be congratulated. Where you have a rupture of the triangular ligament of the radius and ulna, with a slipping forward of the ulna, you will have deformity in spite of everything. You may reduce it by whatever appliance you may select to put on, there is likely to be deformity, and I will say that it is a snare and a delusion to speak about putting on a splint to make sufficient pressure on the muscles to keep the bones apart. You do not do that. Dr. Willmoth brought out the point of bringing the arm in that position; it will keep the bones from welding together, but not from putting on a padded splint and making pressure.

J. Garland Sherrill, Louisville, (Closing the discussion): I am very sorry one of my illustrations was misplaced. It is a case of compound fracture of the jaw, reported by Dr. John B. Richardson, in which a Lane plate is shown remaining in place for six weeks. These jaw fractures are nearly all infected from the mouth. In this case infection occurred from the mouth, but notwithstanding this the patient has perfect union. The plate was taken out later and there was found to be perfect apposition of the jaw. This case demonstrates the value of this appliance in that one fracture.

With reference to the remarks made by the different speakers, I think we are all in accord with one another. I can understand the case Dr. Scaggs described of fracture of the internal condyle and the fragment getting out of place as the arm was flexed and extended. A surgeon, in order to treat a fracture properly and successfully, must have an elastic mind. If he is unable to get a fracture properly replaced in the position of acute flexion, which I like at the elbow, he should not hesitate to put it up in extension or partial flexion, or in any position in which he can obtain proper apposition of fragments.

I must agree with Dr. Scaggs in regard to Colles' fracture in the main. I do not believe it is always necessary for the patient to be anesthetized for the purpose of replacing or reducing a Colles' fracture, provided the man comes to you immediately after the injury. You can grasp the hand as Dr. Scaggs suggests, using the ulna as a fulcrum. At the same time, if you have an assistant, he can hold the hand of the patient while you can take your two hands and break up the impaction, and as soon as the impaction is broken up you can replace the fragments without any danger of displacement. The correct treatment is to break up the impaction, but so many practitioners quit before the impaction is broken up. This is a point in Colles' fracture that is overlooked.

THE SERUM TREATMENT FOR CEREBRO-SPINAL MENINGITIS.*

By Donald K. Clark, Louisville.

I intend to take up in this paper, more particularly the technique of lumbar puncture, and the administration of the anti-meningitic serum.

To do this work, the physician should be equipped with a 20 c.c. all-glass syringe, and a special needle. This needle should be of steel, about three and one-half inches long. In place of the customary point, it should have a short beveled cutting edge as I have found it is much easier to withdraw the spinal fluid with a point of this character, than one of the ordinary long type. The calibre of the needle should be slightly larger than that of an ordinary aspirating needle.

A number of methods of making lumbar punctures have been devised, that of Quincke's being the one in general use. Either the third or the fourth lumbar interspace should be chosen, there being little choice between the two sites. It is needless to say that the syringe and needle should be thoroughly sterilized. The site of the puncture is to be prepared by any of the methods in vogue. Personally, I prefer tincture of iodine on account of the ease of application and thorough asepsis. The excess of iodine may be removed with alcohol. In those individuals who blister readily, it is best to use green soap and water, followed by alcohol on account of the daily repetition of the operation. I do not advise the use of anesthetics in the performance of lumbar puncture. The pain of puncture, per se is trifling, but the pain following the introduction of the serum is often agonizing. If an anesthetic must be given, it should be administered by a competent anesthetist and the constant use of a blood-pressure apparatus should be insisted upon. The blood pressure during the withdrawal of the spinal fluid drops markedly and unless the fluid be withdrawn carefully and slowly, will lead to complete collapse. I have seen three cases, (two under anesthesia) which required artificial respiration and the most vigorous stimulation, following the withdrawal of the fluid. If the fluid escapes too rapidly, it may lead to paralysis of the respiration. The serum before being injected should be placed in a bowl of hot water and brought up to body temperature, this diminishes shock and the pain of introduction.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1913.

Practically the same method was followed in all the cases treated at the Emergency Hospital and is as follows: The patient was placed upon his left side, on a firm table, the knees were then drawn up as far as possible, and the shoulders bent toward the knees. An assistant standing in front of the patient passed one arm behind the crook of the knees and one arm behind the shoulders, thus aiding to keep the patient flexed. The site of puncture, usually the third or fourth lumbar inter-space was then prepared as before stated. The needle was then introduced slightly to the left or right of the median line, and firm pressure made upward and inward. At the depth of three fourths of an inch in infants, one and a half to two and a half inches in adults, the canal should be reached. The stylet is then withdrawn from the needle, and the escape of fluid will prove the entrance to the canal. After a few punctures have been made, there will be no difficulty in recognizing the entrance to the canal by the sensation imparted to the fingers. The proper amount of fluid is allowed to escape and the anti-meningitic serum previously warmed, very slowly injected. The blood-pressure must be carefully watched during the operation and at the first sign of collapse temporarily discontinued. After the serum is injected, the minute opening is sealed with collodion, the patient put to bed, and carefully watched.

Usually following the completion of the operation, the patient will sleep for from twenty minutes to an hour, then wake up and suffer agonizing pain for from one to three hours, after which he sleeps again. The pain varies greatly with individuals, sometimes seemingly beyond the power of opiates to control.

The amount of the spinal fluid to be withdrawn at each sitting depends upon the pressure it is under, the virulence of the process, age of the patient, etc.

At times it will be necessary to withdraw from 40 to 70 cubic centimeters of the fluid. At other times, only 20 c.c. may safely be obtained. As a general average, about 30 c.c. of the cerebro-spinal fluid should be withdrawn at each puncture. In some cases the fluid will be under such pressure that it will spurt a distance of two or three feet when the needle enters the canal. In other instances, the fluid will be almost solid pus, and then it becomes necessary to aspirate it slowly and carefully. It is only in extreme cases that this measure becomes necessary.

The amount of the serum injected depends entirely upon the amount of spinal fluid removed. The amount of material injected should always be kept at least 10 c.c. below the amount removed. By this means the benefit of decreased pressure, as well as the curative effect of the serum is obtained. The average dose of the anti-meningitic serum is 20 c.c. I do not think the age of the patient should modify the dosage so much as the amount of fluid withdrawn. I consider 30 c.c. the maximum single dose. I am inclined to think that a larger dose than that produces shock. The time for repetition of the serum depends to a great extent upon the virulence of the infection. In very severe cases it may be repeated in twelve or eighteen hours. In the ordinary type of cases it should be repeated every twenty-four hours.

It is recommended that never less than four doses of the serum should be given. As a rule, four or five doses will be sufficient. I had one case in which it was necessary to give nine injections before the symptoms entirely subsided.

In from twelve to twenty-four hours after the first dose of serum the pain will begin to subside, the temperature drop a degree, and the patient feels generally more comfortable. The second and third doses in successful cases are usually followed by a complete cessation of the symptoms. The patient, however, remains nervous and irritable for several days. The serum is very efficacious in removing the delirium nearly always present in these cases.

The cases that recovered under the use of the serum were almost uniformly free from complications. In some few cases, complications such as deafness, that were present upon admission, were not benefitted. One case that developed nephritis during the course of the disease, made a very slow convalescence.

Just a word regarding the site of the puncture. In some few instances, no fluid can be obtained in the third or fourth lumbar inter-spaces. In such cases, with a small needle no hesitancy need be felt about going into the canal higher up. I have repeatedly gone higher up, in one instance as high as the tenth dorsal interspace and have never seen any harmful results. If the fluid be entirely purulent, a needle may be inserted in the third lumbar interspace and another about the seventh cervical and the canal between them washed out with saline solution.

CONCLUSIONS.

1. That the curative effects of the serum depends upon its use early in the case. This in turn depends upon the early diagnosis. All cases at all suspicious should be subjected to lumbar puncture and the spinal fluid examined for the meningococcus. By the early use of the serum the mortality may be reduced to 15 or 16%.

2. That the introduction of fluids into the spinal canal is never devoid of danger and must be done with due regard to the possibilities.

3. That no hesitancy need be felt, about giving repeated doses of the serum. A case that does not respond to four doses, may respond to eight or more.

MANAGEMENT OF PLACENTA PREVIA.*

By Walker B. Gossett, Louisville.

There is no preventive treatment of placenta previa. The first treatment or management in a placenta previa is that of hemorrhage which may occur without any warning the patient being at rest or following coughing, sneezing, straining at stool or lifting. As a rule, look out for the hemorrhage to occur during the last ten weeks of pregnancy; although it may manifest itself very early. The central variety is to be associated with earlier and more severe hemorrhages than the lateral, but this is not always the case. Sometimes the central variety will reach full term and no bleeding occurs until labor sets in. In cases of lateral variety there is often no bleeding until labor sets in. There have been cases reported where the child has been expelled through the placenta in the central variety, also where the placenta has been expelled before the child. I have never seen one of these cases. It has always been my misfortune to have to dilate and deliver.

Your first danger in these cases will be hemorrhage and according to the extent of the bleeding will generally be the degree of collapse. The second danger will be that of sepsis, following the delivery, and these cases are more prone to puerperal sepsis, so therefore be absolutely surgically obstetrically, aseptic, and no objection can be made to the use of rubber gloves in these cases, you have gone past a physiological labor and into a pathological condition.

There are some men who follow the routine treatment of emptying the uterus at all times as soon as the diagnosis is made, this method is followed, no doubt by the majority. They take into consideration that you are liable to a fatal hemorrhage at any time, so the man who has a large field to cover, must particularly take this into consideration. The moderate loss of blood up to the time of viability produces a weakening effect on the mother. The very slight chance of the fetus surviving is so slight that it should be nearly disregarded.

The first treatment to consider is expectant or temporizing, that is treatment before labor sets in, but are you justified in temporizing when you know you are dealing with a placenta previa? In your private practice—outside of a hospital—no, unless you remain with your patient.

When a placenta previa has been diagnosed, the uterus should be emptied. I have followed the rule to send these patients at once to a hospital, then you can consider the question of temporizing and the treatment is this: pack the cervix and vagina with gauze, remove in eight to ten hours, irrigate and then repack if patient is in first class condition and the cervix not dilated or dilatable so you can insert two fingers into the cervix, that is if I can insert one finger and find the cervix is in such a condition that I can insert the second finger, I go on and deliver by podalic version, not temporize any longer.

So the ease or difficulty will depend largely upon the condition of the cervix and whether or not labor is in progress.

The routine treatment for years in this country has been the tampon when the cervix did not permit of version. Many obstetricians in England, Germany, France and Italy are opposed to the tampon. First, they say it does not always arrest the bleeding, although they admit that it does so usually if the membranes are still unruptured. Secondly that it does not always bring on labor and so has to be repeated (seven times in one of my cases), and thirdly, because there is risk of infection. They only use the tampon in cases of emergency, as when preparations are not complete for delivery or the removal of a patient to a hospital. I always tampon before moving a patient.

The first treatment for ordinary domestic practice when the bleeding has to be arrested before labor has begun and when the cervix is not dilated is the tampon, plug both cervix and vagina.

When the cervix is dilated or dilatable to the extent of permitting two fingers being passed through it, I go ahead, perform podalic version and deliver. As to rupturing the membranes, this should be done to the side if possible, if not go through the placenta. Don't be hurried in the extraction of the child. The child's thigh and breech should be pushed through the cervix by the uterine contractors, not dragged through, unless there is some cause to make a quick delivery.

When I graduated, I had Barnes' bag outfit, which rotted on me.—never used it. I always depend on gauze plugging and my hand in these cases.

Dr. O. L. Elbrecht, St. Louis, related some experiments with physostigmin on normal individuals. He found that small doses had absolutely no effect in many instances, whereas larger doses gave prompt action of the bowels. He found that it was usually twenty minutes to half an hour before it acted.

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*Read before the Kentucky State Medical Association. Louisville, Wednesday, October 30, 1912.

THE MANAGEMENT OF PUERPERAL ECLAMPSIA.*

By W. B. Moore, Cynthiana.

To-day, prophylaxis or prevention of disease, is receiving foremost consideration, and in no branch of medicine can more be accomplished than in the prevention of the toxemia of pregnancy, which threatens and may result in an eclamptic seizure.

Hirst estimates that there occurs, approximately four thousand five hundred cases annually in the United States. Practically every case could be prevented if every pregnant woman received the attention that is justly due her and her unborn child.

Just as soon as the mother knows she is pregnant, she should place herself under the care of an intelligent physician, whether she is delivered by a mid-wife or not.

Until the public is educated to do just that one thing, this frightful complication will continue to exact its terrible mortality among the mothers and babies of this country.

It is the duty of the profession to instruct the public to the necessity of giving the expectant mother more attention than she has been receiving in the vast majority of instances. While eclampsia is yet a disease of theories, we do know that it occurs only in pregnant women, and that it occurs always after the period of placental formation.

The symptoms and pathology are caused by some toxin or toxins circulating through the system with faulty metabolism and elimination as a constant added factor in all its forms.

With the first symptoms of preeclamptic toxemia, the physician must at once institute measures for its relief. When these women begin to show high arterial tension, restlessness, epigastric pain, blurred vision or albuminuria, we know they will probably have an eclamptic seizure, unless this condition is promptly relieved.

All the symptoms are seldom present, in fact, never present in the earliest stage. The urine should be examined at least once a week, in the latter months of pregnancy. These examinations should not only include the tests for albumen and sugar, but the twenty-four hours output should be accurately determined, the specific gravity and the amount of urea and undetermined nitrogen ascertained. Too much reliance must not be placed on the absence of albumen. We now know that the kidney break down is a secondary condition in the majority of cases, and some cases never show albumen.

The ophthalmoscope will often give valuable evidence before the urine shows any indication of approaching trouble.

Blood pressure should be frequently taken, while it is not considered of so great importance by some men, others place great reliance upon high pressure as a danger signal.

With the first symptoms of toxemia, the problem of diet is brought squarely before us. As a prophylactic measure, it is well to limit the quantity of proteid food in the latter months of all pregnancies. It is generally agreed that proteid metabolism is most often at fault.

During the last month of gestation, even in non-toxic cases, it is best to restrict the ingestion of red meats to two or three meals per week.

When evidence of toxenia is present, the first important indication is to reduce the amount of nitrogenous food to a minim. If toxenia is at all severe, an exclusive milk diet must be adopted. As milk contains about four per cent. of protein, this may be more than a severely toxic patient can utilize, therefore, we should mix it with some carbohydrate or add some cream to it.

When the toxenia diminishes, green vegetables, fruits and chicken broth may be gradually added. It is better to at once institute the strict diet, than to compromise and later be forced to adopt it, at the expense of valuable time.

The next important measure is to increase elimination of toxic products, if this toxemia is the result of proteid metabolism. Then if we reduce the amount of nitrogenous food to a minim and increase elimination to a maxim, we are doing the sensible thing, whether this toxemia has its origin in the foetus, the placenta or the liver.

Of the three avenues of elimination, the skin can be depended upon to do most excellent service. The hot, wet pack, applied once or twice daily, according to degree of toxemia and condition of patient, and continued from one to two hours. Women with weak hearts should be carefully watched while in the pack, otherwise serious results may follow. The kidneys should not be stimulated except by the drinking of an abundance of pure water.

Several grains of calomel, followed by salines, is an excellent method of increasing intestinal elimination. Hot saline irrigations will increase the action of the kidneys and skin, as well as clear away offending material in the intestinal tract. If the blood pressure remains high after these measures have been faithfully tried, nitroglycerine or veratrum in small doses, should be given until arterial tension is reduced.

If the patient's condition does not rapidly improve, as shown by lowered blood pressure, clearing up of the urine and a general improvement of the patient, or should the toxemia increase in spite of treatment, then the uterus must be emptied without delay. When this measure has not been too long delayed, and no urgency exists, the safest method is to puncture the membranes under aseptic precautions, and leave the process to natural forces, unless rapid delivery is urgent. When a woman has had the first convulsion, the case at once becomes desperate. The time for preventive treatment has long since passed.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

Now, it is imperative to empty the uterus as rapidly as consistent with the safety of the mother, and that depends largely on the skill of the obstetrician.

The principal resistance to rapid delivery is met at the cervix. If the cervix is obliterated this condition is extremely slow in primipara, and the os-uteri partly dilated it is not a difficult procedure to secure sufficient room, by manual dilatation, to deliver either by forceps or version.

In the presence of an ineffaced cervix and a tightly closed os, we are facing an entirely different condition. Manual dilatation under sometimes impossible, always more or less injury to the tissues.

In this serious condition, if a well equipped hospital is available and a competent surgeon is at hand, the uterus should be emptied at once by vaginal or abdominal Cesarean section. If these conditions cannot be secured, then reliance must be placed on medical treatment, and less active surgical measures. The general practitioner should not attempt the radical operation.

We know that every convulsion increases the danger to both mother and child. We know, furthermore, that 95% of these patients will not have another convulsion after the uterus is emptied. Still, we believe none but the especially trained surgeon should attempt Cesarean section in eclampsia.

Winter said, at the Budapest Congress in 1909, that of thirty-two patients delivered before they had had six convulsions, only three were lost. He further said that the mortality in the expectant plan of treatment was 40%. That in eclampsia, treated by mild measures, the mortality was 25%, and by vaginal section it was only 9%, and in twenty-two cases delivered by vaginal Cesarean section immediately after the first convulsion, all the mothers were saved.

In private practice we are often compelled to depend on the hydrostatic bag or manual dilatation, knowing that the necessary delay is less dangerous than the radical operation by an incompetent surgeon. The hydrostatic bag is the safest way of dilating the cervix, though the time required is a serious objection.

While making preparations for delivery, and after delivery, if convulsions recur, our best means of controlling them is with veratrum, chloral or venesection. Veratrum must be given for effect, twenty or thirty minims hypodermatically and repeated in half that quantity, every half hour, until the pulse falls below sixty beats per minute.

It is claimed that convulsions will not recur if the pulse is kept below sixty. Personally, I prefer venesection. It looks reasonable that when a definite amount of blood is removed, we are eliminating toxins in the most effective way. This blood can be replaced by normal salt solution, if necessary, and further dilute the remaining poisons. The solution should be given cautiously, owing to the danger of pulmonary oedema.

The time honored use of chloroform in eclampsia, either for the control of convulsions or operative interference, is now condemned by many obstetricians, notably, by Drs. Cragin and Hull, in a paper read before the Section of Obstetrics, at the St. Louis session of the American Medical Association.

Their experience proves that the same pathological changes are found in the liver, in delayed chloroform poisoning that occurs in eclampsia. They further believe that when an anesthetic is required in eclampsia, ether is the one admissible agent, while to saturate the system with chloroform for several hours, would greatly diminish the patient's chances for recovery.

Perhaps in the indiscriminate use of ether, we may do serious injury to an already damaged kidney. Further experiments along this line seem desirable.

Many of the measures advocated from time to time in the management of eclampsia, are worse than useless. Pilocarpine, at one time held in high esteem, is a very dangerous drug in this condition. It strongly predisposes to pulmonary oedema.

The consensus of opinion to-day favors rapid delivery. The point in dispute is the various methods of emptying the uterus. This must depend on the condition of the cervix, the time of pregnancy, the surroundings of the patient and the skill of the attending physician.

We believe that the greatest good to the greatest number will result from a campaign of education. Instruct the women of this country that any variation from normal health during the period of gestation may be the beginning of a serious condition, and that her only safety lies in following the instructions of an intelligent physician.

If this procedure is faithfully carried out, the management of eclampsia will be solved without the dangers of chloroform narcosis and surgical operations, in the desperate attempt to save these patients from an untimely grave.

THE PRACTICAL NURSE.*

By J. O. Jenkins, Newport.

In accepting the above topic for presentation to you, I do so with considerable misgiving that the reason for the existence of the practical nurse is not so very apparent, now that the Trained Nurse is so much in evidence.

Also, that the legend "Practical Nurse," will undoubtedly bring to your memory the unfortunate experiences you may have had with those of the "Sairy Gamp" type, and cause strange twitters of apprehension to disturb your contentment.

In these strenuous times of economic upheavals, when the spending of a dollar is a momentous item to the man of average family and income, the hiring of a nurse to take care of the sick member is of tremendous importance. The services of the trained nurse at fee of twenty-five dollars per week is almost prohibitive, for though he may or may not be a skilled workman, his wages per week do not reach that figure. Therefore, without going into debt, he could not accept the expert nurse's protracted services, no matter how great the urgency of the sickness. It is either the practical nurse, the kindly neighbor or the hospital, and, as a self-respecting citizen, he secures the practical nurse whose stipend is within reach of his income.

Some years ago, a writer in the *New York Medical Journal* called attention in an address delivered before nurses, to the large and increasing field of practical nursing, and that Correspondence Schools of Nursing were endeavoring to meet the emergency. He referred to the people of moderate means who, while they recognized the value and effectiveness of trained nursing above domestic article, were forced to accept the latter rather than financial embarassment by engaging the graduate. Every-day experiences among your clients emphasize the fact that there is a field and a demand for the sensible, methodical, and obedient practical nurse. If this be true, what should be her qualifications and how can she prepare herself that she may be available to the medical profession? My belief is, that every practical nurse should be trained by the physician or some one competent to teach her the essentials of the practical work Correspondence Schools may teach theory, but they cannot provide practice: the result is a jumbling of ideas and performances that are very aggravating, if not serious, to the physician unfortunately compelled to accept their services.

The period of life in which a woman may consistently take up the vocation varies with the individual, some being more apt than others. The buoyancy of youth and social duties of women in the early years of life make them undesirable, generally as practical nurses. They have seldom cast aside the frivolities of youth nor have they fully acquired the sedateness which make them responsive to the physician's efforts.

On the other hand, too advanced an age is objectionable. Women of forty-five and upwards are not flexible to authority, are firm in their convictions, personal habits, customs and beliefs and do not readily respond to instruction or advice.

This leaves the middle period of life between the ages of twenty-five and forty years as being the choice years for entering the field where they may labor fifteen or twenty years and should then retire permanently.

It goes without saying, that those chosen should be of good health and physical build, fair education, good intelligence and morals and possess a ready aptness to adjust themselves to the circumstances of life. They should also have the brightness, tact, optimism and firmness of character which is so needful in attending the sick. It is not always an easy task to select the proper individual for the position, but a little experience in the matter will, however, soon justify your judgments.

The question now confronts us as to what shall be taught and by whom.

It would seem, that the training is best given by the general practitioner, as nursing of this kind is more generally found within his practice, and then too, he can offer the greatest variety of cases for instruction.

The period of training should be not less than six months but might be extended longer in particular cases where the pupil expects to devote her time to some particular line, until she has attained a high degree of perfection. It is a very proper method to attach the pupil to the physician's office force where under the eye of the office nurse, she may learn the essentials of practice. Here she will be taught the principles of asepsis, sterilization, preparation of standard solutions, the uses of instruments of precision, hypodermic medication, methods of anesthesia, the names and uses of ordinary instruments and the preparation of dressings. Once a week or as occasion offers, when the physician may find leisure or opportunity occurs, informal talks on the elementary fundamentals of medicine should be given.

The course of study may consist of gross anatomy, with demonstrations on a model, and with special stress laid in this and other subjects on first aid work. As a companion to anatomy, simple physiology and hygiene should be required. Elementary therapeutics, materia medica, obstetrics and minor surgery so far as they relate to nursing should be included in the course as well as securing pathological specimens such as the urine, sputum, etc., of the body.

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*Read before the Kentucky State Medical Association. Louisville, Tuesday, October 29, 1992.

Another subject she should be taught is domestic medicine. This will consist of the preparation and administration of simple remedies. Away from cities and towns doctor, nurse and patient may be sometimes forced to rely on the crude drug products which Nature has placed at hand, and a knowledge of the field material and its manipulation for the relief of pain or distress is no mean asset for nurse or doctor.

The making of herb infusions, various poultices, healing salves and applications is wellnigh a lost art outside the city pharmacy, and the nurse who in an emergency can prepare and apply the humble means around her is worthy of her hire. Thus the virtues of vinegar or oak bark may be tested in hemorrhage, leucorrhoea or inflamed throats or when an astringent is indicated; willow, triticum or iris in fever and urinary disorders; red pepper, nutmeg and ginger in vomiting or abdominal pain and diarrhoea aided perhaps by turpentine, paregoric or spirits of nitre from the family medicine chest. By such means the wide-awake nurse rises to the occasion and alleviates distress until the arrival of the physician.

She should know how to make and apply a mustard, a ginger, a flaxseed or spice poultice and be able to compound a useful liniment out of camphor, whiskey, turpentine, gasoline combined with melted lard or oil. She might also be skilled enough to make a nursing nipple for the baby's bottle out of a goose quill with a rag around it.

Such knowledge may not be very scientific but there are times when it is very useful, to the point and produces results. Information of this kind is seldom acquired by the training-school nurse unless she is one of the fortunate ones who continues to study after her graduation.

As far as I am aware, domestic medicine is not spoken of in nurse's training schools though it would be no waste of time if a few lectures on the subject were given the pupils.

The theory of obstetrićs, the physiology and hygiene of pregnancy are taught at the doctor's office while the practical part, including preparation of the patient prior to, after delivery, and during the lying-in period are taught at the bedside. As her work will be largely obstetrical at first, she must know the technique of labor and how she may intelligently assist in the time of labor and delivery, the conduct of the case afterwards and in the care of the infant.

She should be able to catheterize the patient without carrying infection, give a douche if required, and a high or low enema if occasion demands it. She should know the amount of lochia safely permissible and when it assumes the proportion of a hemorrhage, and to act intelligently until the arrival of competent aid. To obtain practical knowledge the pupil may be sent as a visiting nurse to the poorer families who will be glad generally, to receive her ministrations. On these visits she will take temperature and pulse and other items, change the bed linen; will bathe and tidy the patient, wash the baby, straigten up the room and perform such other duties as has been indicated by the doctor. In this way the treatment is supervised and benefit results to all. Some families may pay a small sum for the work, say twenty-five cents to a dollar per visit which fee may be retained by the nurse, while in training, or not, as agreed upon.

If it is designed for the pupil to do general nursing, she may visit selected cases with the doctor on his daily visit and have pointed out to her certain features in the case requiring special conditions in nursing. By such a system of bed-side instruction she familiarizes herself with the pathological conditions of various diseases and is able later on, to nurse them intelligently. A fair knowledge of pediatrics is also desirable.

The nurse might occasionally be present as flunkey in the less important surgical operations at the patient's home and thus see and be taught proper methods of surgical technique, bandaging and recovery from anaesthesia.

She should have or cultivate a knowledge of cooking and light housekeeping, for the majority of practical nurses must either perform that duty themselves or see that it is done. The washing, scrubbing and char-woman work must be avoided for her hands must not come into danger of wounds, abrasions or infection. Personal cleanliness, neatness, kindness, to the patient and politeness, with strict obedience to the physician's commands should be a part of the simple uniform she may wear, at the same time preserving a proper dignity that strengthens her calling and enhances her value.

On looking over the ground, you will say, these are the requirements of the trained nurse. So they may be but not to the extent nor degree expected of the graduate nurse.

The practical nurse *is* a trained nurse, but *you* have trained her. She can receive no official recognition no matter how thoroughly and satisfactorily her duties may have been performed. She usually receives much less money for her services than the graduate and does more labor for it, and her field of endeavor is seldom reached by the graduate.

The domain of the two kinds of nurses are fairly well drawn and there need be no conflict between them.

There is yet a class of women who make a practice of nursing and who may or may not be sufferable. They are those who have officiated as handy women in the neighborhood when emergencies formed their services on a family.

Their proper position is that between the practical nurse and the maid of all work. After a fashion, they can do anything and everything; have an exalted opinion of their abilities and are not slow in letting you or anyone know it.

Almost any price from three dollars up per week suits them for which they do the family washing, assume charge of the house and incidentally nurse the patient. These persons are usually stranded widows, who have had to put up a vigorous battle in life for themselves and little ones perhaps, and who have acquired a great self-confidence and aggressiveness.

These two qualities are not wholly bad where tempered with other modifying attributes. Usually, however, these women will not obey the doctor's orders unless they are consonant to their own opinions. They know nothing of asepsis and care less about learning. Intelligent medicine, treatment and conduct is all bosh to them and they do not propose to become parties to doctor's fads and fancies. They will not accept instruction with good grace and conviction until some unfortunate event knocks it into their brains, and rely almost entirely on their wonderful success in getting Mrs. Blank on her feet after Dr. Grouch had made such a blunder, to their thinking, in his treatment.

If you get your patient well with this kind of nursing you can bless your stars that you were so lucky. Don't list this kind of a Jack-of-all-trades among the nurses. Occasionally one may be discovered having talent and disposition which permits moulding, but as a rule, little can be done in training them to be reliable aids in the time of need.

In conclusion, I would not have my remarks construed as casting any unpleasant reflections or dimming any of the luster to which the trained nurse is entitled in her magnificent work, indeed far from it, but I speak only a word of kindness and approbation for the good and lowly labor of the trained practical nurse.

DIAGNOSTIC ERRORS IN DISEASES OF CHILDREN.*

By Robert H. Moss, Henderson.

A few years ago the term pediatrics was used in a very restricted sense, however, as the field has broadened year by year, we have come to realize that the field is being invaded by the ever aggressive surgeons as well as by the eye, ear, nose and throat man—and we are beginning to have books devoted to the surgery of childhood; all of which is only as it should be.

While mistakes in diagnosis are at all times to be deplored such conditions are, in infancy and childhood, for many reasons more serious matters than in adults. In children the sequence of pathologic changes are far more rapid than the same conditions in later life; while the baneful consequences of an unrecognized pathology, borne through the remainder of life serve as a "living epistle, known and read of all men," to herald our ignorance to all who may care to know.

Because of the great physiological activity of the organism in early life, pathological conditions are variously modified by infancy and childhood. Stimuli of a certain intensity are characterized by a greater reaction than the corresponding conditions in adults. The enormous frequency with which lesions of the respiratory system are entirely overlooked or wrongly diagnosed. is probably not appreciated by the majority of us; this fact has been most forcibly emphasized by the studies of Cabot, of Boston. This investigator has just completed a study of three thousand cases, in which, during life, both he and his associates carefully studied these cases and compared the diagnosis made from such investigations to the actual conditions as revealed by a competent pathologist at the autopsy.

These investigations have shown that in lobar pneumonia the disease is overlooked in 26 per cent. of the cases, and that mistakes would have occurred in a far larger percentage of cases, had the physical findings formed the only basis for the diagnosis. Often a correct conclusion was reached from a knowledge of the inherent tendencies of certain pathological conditions to be complicated by a lobar pneumonia; in other words the careful correlation of physical findings with the natural history of the affections under consideration.

The frequency with which pleuritic effusions, both purulent and serous, escape recognition until late in their course, occurs with almost monotonous regularity. This condition occurs with especial frequency following lobar pneumonia, and the acute exanthematous fevers of childhood.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

The physical examination in these cases is sometimes very confusing—oftentimes the bronchial and other respiratory sounds are transmitted with startling clearness; however, on account of the resiliency of the chest walls in early life, visceral displacements are very frequent in these effusions, and are of assistance in diagnosis if carefully sought, also bulging of the intercostal spaces are of more frequent occurrence than in the same condition in the adult. In pneumonia as well as in the other acute infections, especially in the the exanthemata, a persistence of fever of an irregular character, with a dry, non-productive cough should at once excite our suspicion of a pleuritic exudate, and we should make careful and repeated examinations resorting to the aspirating needle if at all doubtful. While the difficulties in making a diagnosis in lobar pneumonia are often great, they are infinitely more so in broncho-pneumonia, as Cabot's studies have proven that a correct diagnosis of this affection is only made in 33 per cent in adults and a far less number in children and infants, they showing areas of consolidation after death from almost any cause. Indeed so well is this fact appreciated by the pediatric specialists that they do not hesitate to make a diagnosis of broncho-pneumonia when you have the symptoms of a bronchitis, and the child is more seriously ill than could be accounted for by the bronchitis.

No less an authority than Holt makes a diagnosis of pneumonia in the presence of cough, fever, rapid respiration and cyanosis, even in the case of absolutely negative physical findings. Another notable characteristic of broncho-pneumonia is its tendency to become a complicating factor or terminal event in almost all the infectious diseases of early life.

Most probably in no other disease, is the probability of becoming a complicating factor in other diseases, of a continued nature, so well marked as it is in the case of broncho-pneumonia. A continuance of fever of a more or less irregular type, with cough, possibly very slight, especially if it complicates the original disease late in its course when the little patient is exhausted to a marked degree, should at once arouse a suspicion of broncho-pneumonia.

Cabot has demonstrated that what we have been accustomed to designate as tubercular meningitis is practically always miliary tuberculosis, as the tubercles are never confined to the meninges alone; these facts have especial importance when considered in reference to children—for the reason that the primary focus is so often unrecognized, and still more important, that every tuberculous lesion in the child presents the possibility—almost probability, of invasion of the meninges with fatal consequences.

Every pediatrician of large experience knows that the pain of pleurisy and pneumonia in children are just as frequently referred to the abdomen as to the chest.

There are three things that a doctor should always think of in the case of a child with an acute abdominal pain; pneumonia, appendicitis, and intussusception, and I would emphasize most strongly the importance of careful and repeated examination of the lungs in all acute abdominal affections in early life.

The inhalation of foreign bodies often gives rise to puzzling clinical pictures. The infant may have a suffocative attack, or paroxysm of coughing from which he quickly recovers, later on the symptoms of an acute bronchitis or pneumonia become manifest, and all too often the causative relation of the foreign body is unsuspected. I treated an infant for a broncho-pneumonia for about two weeks, when one day during a severe paroxysm of cough, a wheat beard was expelled, after which recovery rapidly supervened.

Otorrhea ranks high as one of the affections which goes unsuspected or wrongly diagnosed. In this condition it is often astonishing how grave the general symptoms may be, along with such slight local reaction. I remember having treated a child for four or five days who had been suddenly taken ill with fever and vomiting, and who was in a semi-comatose condition, but who at no time suffered with pain in the ear; however, as soon as drainage of the middle ear was established the symptoms rapidly subsided. If we would but remember the anatomic conditions existing in middle ear infections, where pus and inflammatory products are retained, sometimes under great pressure, in dangerous proximity to so many important structures, we would be more prone to appreciate the necessity for being forever on the alert to detect the earliest manifestation of disease in this region. We should remember the frequency of involvement of the middle ear at some time in the course of the acute infection, especially the exanthematous fevers, and frequent and careful examinations of the canal and drum membranes made.

A considerable rise of temperature in the course of one of these affections is an imperative demand for an examination of the lungs and middle ear. Furthermore, in these inflammatory ear troubles we should always bear in mind the possibility of jugular and sinus thrombosis and otitic brain abscess which may remain latent for weeks or months, when its connection with the ear may possibly have been forgotten.

Kelly, of Cleveland, Elliott, and others have called attention to the frequency with which intussusception passes unrecognized. Nevertheless, if in these cases a carefully taken clinical history is obtainable, it is usually quite characteristic. Their onset is, as Kelly terms them, more in the nature of an intestinal accident; the pain is not continuous but paroxysmal, and is usually accompanied by vomiting, at least as an initial symptom, with either constipation or frequent, small dysenteric discharges, usually accompanied by tenesmus. A sausage-shaped tumor may or may not be palpable. A rectal examination should always be made, because this condition has been quite often mistaken for a prolapse of the rectum. The sudden onset and the paroxysmal character of the pain should always be suggestive of this condition.

"Dr. Ellerich, of Pittsburg, considers empyema and intussusception the two surgical conditions which are most apt to be overlooked or to lead to mistakes in diagnosis;" and in all abnormal conditions of the rectum in children one should always have in mind the possibility of this grave condition. Because of the frequency and the difficulties of diagnosis, appendicitis in infancy and childhood assumes great importance.

Churchanan, has shown us that this affection runs an obscure course in infants—and presents many diagnostic obscurities. He attributes the high mortality at this age to the diagnostic difficulties.

H. C. Deaver has this to say: "The symptoms of acute appendicitis in infants are unquestionably scanty, irregular and misleading and it undoubtedly follows that infantile appendicitis is more frequent than is generally believed. In Deaver's experience in older children, in marked contrast to infants, the symptoms are, even more than in adults, well marked and severe—in fact the clinical symptoms of pain, vomiting, muscular rigidity, fever and distension are usually easily elicited.

These children are apparently seriously sick from the beginning. The muscular rigidity is usually well marked, the thighs are flexed and extension is quite apt to occasion great pain. Deaver emphasizes the dictum that "All cases of abdominal trouble in children are appendicitis until proved otherwise."

He insists on a thorough, systematic examination of all organs as the only logical solution of the problem, this applying with especial force to infancy.

Selter has demonstrated that the cecum and appendix, depending upon the age, lie more or less deeply in the pelvis. Now, as a result of these anatomical or developmental peculiarities we very often find irritative symptoms of the bladder and rectum; indeed, Churchanan insists that all urinary derangements in childhood should excite a suspicion of appendicitis. As a logical result of these conditions we find a pelvic abscess in a considerable number of cases.

Deaver says, "By far one of the most important procedures in childhood is rectal palpation on the right side upon rectal examination, and this must never be neglected;" while Churchanan and Selter consider resisttion quite pathognomonic. Quite often in these cases we have tenesmus and bloody discharges, simulating quite closely the clinical picture of dysentery. In girls the difference between ovarian and tubal inflammation is sometimes extremely difficult if not impossible, and in these cases the possibility of gonorrheal salpingitis and peritonitis should be remembered.

As before stated the question of right-sided pneumonia has to be always considered. Because of the frequency of intussusception in childhood its exclusion becomes necessary—the paroxysmal nature of the pain, tumor when palpable, tenesmus and bloody stools, with the occasional palpation of the tumor per rectum assist in its recognition when the intussusception is advancing.

Rachitis is considered by some authorities to be more frequently overlooked than any other disease. Doubtless one reason for the wide-spread failure to recognize this condition is that our attention has been generally centered on the osseus changes, in other words, one of the terminal events.

Van Derslice most aptly says, "Rachitis is a condition of malnutrition affecting all structures and systems of the body with characteristic defects of nutrition, chiefly manifested in the bones. It is this last phase of the definition that has caused the many errors in the use of the name. "Rachitis is a dystrophy, therefore a constitutional disorder, and though the chief macroscopic and known microscopic changes do affect the bones, there are other changes which are as constant as those of bone growth."

It is practically agreed by all pediatricians that underlying the syndrome there is a diettetic error, with a superadded digestive disturbance. Indeed, some authors contend that the accompanying indigestion is always present and is the chief contributory factor.

Schabad and others have demonstrated the presence of deficient calcium retention, the same most probably having a direct connection with the gastro-intestinal disturbance.

This seeming digression is only to suggest the diagnostic value of these causative factors. Van Derslice says, "No disease of early life is so common as rachitis, nor is any disorder so frequently overlooked. It is far commoner for the diagnosis to be made after the cessation of the disorder when there remain but the results of a past rachitis than to have the diagnosis made during the attack." So frequent is this disease that the trained pediatrist looks for its various manifestations almost instinctively. In its active stage it is usually met with from the sixth to the thirtieth month, and is most frequently in autumn, winter and spring. Practically always a history of digestive disturbance can be elicited. The child is restless, fretful, sleepless, and will not remain covered at night. In one severe case I was consulted because of the almost incessant crying at night, practically preventing sleep in the family. On rachitic treatment the symptoms rapidly disappeared, although the child had been treated for some time previously without a correct interpretation of the symptoms. The disease has an insiduous onset. Whenever the child falls asleep there is a tendency to profuse perspiration, especially about the head and face, the pillow usually being found wet when awakening. On examination generalized tenderness is found, the child often crying when being lifted. Later on when the disease is well established, we have the rachitic rosary and the other bony deformities, such as the enlargement of the ends of the long bones, causing enlargement of the wrists, knees, ankles, etc. In arriving at a diagnosis of this disease one should always remember the great tendency for the occurrence of convulsions, laryngismus stridulus, and tetany in this condition.

Through the studies of Abt, Brennerman, Trump and others, we are beginning to recognize the importance of urinary infections in many of the obscure fevers of children.

Our ideas of the susceptibility of young children to infection have undergone a marked change in the last few years. Female infants are more prone to this affection than males, and there is usually elicited the fact that the child is allowed to lie in soiled napkins or improperly cleansed.

The subjects of this infection are usually very restless, have more or less irregular fever, anorexia, thirst and possibly vomiting; however, the diagnosis is finally confirmed by a chemical and microscopic examination, the urine usually containing pus and numerous bacteria, most commonly of the colon bacillus variety, and of an acid reaction. The infection may be limited to the bladder, or also involves the ureter and kidney.

In numerous instances, although the child is seriously ill, there are absolutely no urinary symptoms, nevertheless an examination of the urine discloses the true nature of the affection. Wasserman says: "The urine is the main basic point in the diagnosis of the disease. Given a negative physical examination in a serious general condition, should make us think of cystopyelitis, just as we are accustomed to think of otitis. Urine analysis should never be omitted in a case of obscure high or often repeated fever even in infancy." And again "In young girls with general poor health, with or without exacerbations of fever occurring several times during the year, pyeletis is often mistaken for anaemia, chlorosis, even latent tuberculosis or malaria, and is treated accordingly."

The clinical picture is often very misleading simulating appendicitis; typhoid fever, influenza, and pneumonia. Fortunately if we will always bear the possibility of this condition in mind, we have in the urinary examination a certain means of differentiation.

We are only beginning to realize the baneful and far reaching consequences of infection of the mouth and tonsils, both acute and chronic, but especially that of the chronic form. It is quite probably one of, if not the most frequent, avenues of tubercular infection.

Both in America and Europe giant cells or tubercle bacilli are found in 67 per cent of removed tonsils, and this is applicable to both child and adult. Many severe and intractable cases of anaemia are due to chronic tonsillitis, and which can only be successfully treated by removing the tonsils. Too often we do not recognize the causative influence of chronic tonsillitis and adenoids in perpetuating the lowered vitality and hypersusceptibility to infection, of the child who is below par, both mentally and physically.

While I am perfectly aware that there is a difference of opinion regarding the status of tonsil question, and that a few writers think the operation of tonsillectomy is overdone, nevertheless, I am thoroughly convinced that instead of this being correct, the reverse is true.

Far too frequently obstructive symptoms are considered the main, if not the only, indication for operations, whereas the truth is that this is only one of the many phases of this question of chronic tonsil infection.

In obstructive cases the hand writing is on the wall, the evil is fully wrought, the stupid expression, the gothic palate, impaired hearing, and other manifestations—a living monument to neglectful surgery.

In a consideration of this phase of the subject the importance of the chronically inflamed and submerged tonsil as atria of infection for many of the infectious diseases are too often entirely unappreciated.

Many authorities consider that acute rheumatism has its source in the tonsils or rather they serve as the portals of the infecting agents. The etiologic relationship of diseased tonsils and adenoids to the middle ear would hardly seem to need comment—as it is recognized as of great significance by ear, nose, and throat men, nevertheless, it is often unrecognized. An earache in a child imperatively demands a careful examination of the throat, because this is practically always the avenue of infection.

Until recently we knew practically nothing of congenital hypertrophic stenosis of the pylorus. Of late a great deal has been written on this subject. It usually manifests itself shortly after birth by persistent vomiting, and quite frequently by visible peristaltic waves, and a palpable tumor. This condition should be suggested by any case of persistent vomiting coming on shortly after birth, because of the extremely serious nature of the malady, and while there is a difference of opinion as to whether the malady is principally due to spasm or true hypertrophy, nevertheless, many of the best writers consider that operation offers the best prospect of relief.

Underlying an enormous amount of pathologic phenomena in adult life, is a condition, which if recognized in early childhood and properly treated, would result in incalculable benefit to the individual—I refer to the condition of visceroptsis in childhood.

The investigations of Smith, Butler, Ochner and others along these lines have demonstrated that these conditions originate, in by far the majority of cases, in early life; and that certain physical peculiarities stand in an etiologic relationship to many diseases of later life. This subject is so broad, that to more than call attention to it in this brief way would lead us too far afield. However, this condition should always be borne in mind and the characteristics carefully sought, because it is only in childhood that treatment is most effective; at that time it is both prophylactic and curative, and the individual is saved years of suffering and invalidism.

Chiefly through the studies of Hunter, Talbert, Fletcher and others, the attention of diagnosticians is being directed more and more to the mouth. Fletcher says, "Uncleanliness of the mouth is probably the indirect cause of more bodily diseases than any other source." Under the terms of Riggs' disease or alveolitis are included a pathologic condition with far-reaching consequences. Hunter in speaking of the influence of an unclean mouth says: "What I desire to impress upon you students entering the profession, and all those already engaged in the practice of the profession is, it is not a matter of teeth and dentistry. It is an all-important matter of sepsis and antisepsis that concerns every branch of the medical profession, and concerns very closely the public health of the community. It is not simply a matter of the neglect of the teeth by the patient as is so commonly stated, but one of the neglect of a great infection by the profession—a great infective disease for which the patient is not primarily responsible any more than he is responsible for the contraction of typhoid fever, or tuberculosis.

The condition referred to is that to which I have given the name of oral sepsis. The chief feature of this particular oral sepsis is that the whole of it is swallowed or absorbed into the lymphatics and blood. Unlike the sepsis of open wounds on the outside of the body, none of it is gotten rid of by free discharge on the surface. The effects of it, therefore, fall in the first place, on the whole of the alimentary tract from the tonsils downward. These effects include every degree and variety of tonsilitis and pharyngitis, of gastric trouble, from functional dyspepsia to gastritis and gastric ulcer, and every degree and variety of enteritis and colitis and trouble in adjacent parts, e. g., appendicitis.

"The effects fall, in the second place, on the glands (adenitis), on the blood (septic anemia, puerperal fever, septicemia), on the joints (arthritis), on the kidneys (nephritis), and on the nervous system."

Even a casual consideration of the baneful possibilities of this affection, should make one alert for its detection. The assertion that it is the basie factor in the causation of many grave systemic conditions does not admit of controversy.

Vomiting is a symptom of great diagnostic value in children. Occurring early it is generally due to irritative conditions, such as dietetic errors or as heralding the invasion of various infections, such as pneumonia, scarlet fever (almost constant) uremia, meningitis, appendicitis, etc. Occurring later in the course of acute infections it usually indicates a condition of toxemia, or, in the case of appendicitis, the onset of peritonitis, in these instances, often becoming fecal in character. In brain affection the vomiting is projectile in character.

Persistent vomiting in early infancy, as I have said before, should always excite a suspicion of congenital pyloric stenosis.

The condition of cyclic vomiting has received considerable attention in recent years, and is believed to be due to periodic phases of acidosis or acidemia.

Perhaps along no lines have we progressed more in recent years than in our knowledge of psychopathology and the psychoneuroses. It is a far call from our conception of these conditions at the present day from that of something like a decade ago. Then, these conditions were considered as something akin to the erratic moods of an obstinate woman; now, however, we know far differently.

The investigations of Freud, Sidir, James, Jung, and others in this filed, forms one of the most brilliant achievements of modern medicine.

These investigations have thrown such a flood of light on psychopathology that we now know that such disease as hysteria instead of being conditions of little significance, are affections of grave import, and profound disturbance of the entire psychological mechanism, and often reacting most disastrously on the physical organism.

We also know that a large percentage of these conditions have their inception in early childhood, and that by early recognition and prompt treatment we have grasped the opportune time, and can restore the patient to health—neglected, we can say with Shakespeare, that "all the rest of their lives are bound in shallows and miseries."

We know that hysteria is very much more frequent in early childhood than we formerly suspected, and we almost stand aghast at the complexity of the pathological process, hence it is imperative that we be on the alert for its detection.

When one has become a wanderer in that dark wilderness of perverted psychology, his condition is indeed an unenviable one and it takes a master hand to guide him safely through. When I see a case of hysteria or other psychosis I think of what Dante saw written over the portals of the infernal regions. We are beginning to understand the scientific importance of correct thinking and that this fact applies to the child, with peculiar emphasis.

We know that in hysteria the underlying factors are concepts, usually of a painful and disagreeable character, which have been suppressed or rather repelled into the subconscious mind, where, though they may be forgotten, yet arise to torment their possessor, as well as his physician.

In closing I will say that I have only briefly and superficially touched upon a few of the more common errors met with in daily practice, and will feel well repaid if it shall be the means of further stimulating interest in this most important subject.

Efficacy of Various Masks in Plague Prevention.—The "Mukden" mask in general use during the epidemic of pneumonic plague in Manchuria, during the winter of 1910 and 1911, Barber and Teague claim, does not prevent the passage into the mouth and nostrils of B. prodigiosus when contained in small droplets sprayed around the mask. This mask consists of a pad of absorbent cotton held over the mouth and nose by a many-tailed gauze bandage. A hood of heavy Canton flannel cloth, covering the entire head and tied in snugly.—Phillipine Journal of Science.

VACCINE THERAPY.*

By John H. Blackburn, Bowling Green.

Comparative frequency of infectious diseases are as yet amenable to specific vaccine treatment.

The ideal method of treatment of these infections would be to have a bacteriological examination of the secretions or excretions by an expert, and if this form of treatment is indicated, to then have a trained "immunizator" to treat the case by autogenous vaccines, the injections being controlled by daily observations of the opsonic index. These various experts with their highly technical training are not to be had by most practitioners. In most instanees we are able to make a clinical diagnosis of the type of infection present. If this can be done, we may then use even stock vaccines, properly administered, rather than deprive our patients of the benefit to be gotten from them, because of our inability to secure the services of an expert pathologist, bacteriologist, opsonist and immunizator.

THEORETICAL CONSIDERATIONS.

Types of infection; local and general; acute and chronic.

The presence of the infective organism or its endotoxin or exotoxin in the human body is to produce certain antagonistic substances The various toxins are all of a proteid nature. Any substance having the property of stimulating the antagonistic reaction is called an "antigen."

The presence in the body of an antigen leads to the development of certain protective substances, precipitins, agglutinins, aggressins, and opsonins. Some of these substances are bacteriological, some antitoxic, some increasing phagocytosis. The blood-serum also has certain antagonistic properties.

In different infections these three factors, bactericidal, antitoxic, and opsonic, are found in varying degrees, as in typhoid, diphtheritic and staphylococcus infections. In those infections in which the toxin (endotoxin) factors predominates, as diphtheria, of course we must use the antitoxin. The bacterial vaccines are indicated particularly in those infections in which the phagocytic function is reduced, the opsonic power lowered. In those infections in which there is produced an endotoxin the vaccines are indicated as a prophylactic as well as in the treatment of the infection.

According to Ehrlich certain organisms develop in the body a condition of "fastness," so-called nutants. Whenever an organism develops this condition it becomes necessary for the body to elaborate antibodies for these changed organisms, the nutants, which requires time, and is a possible explanation for some of the cases of slow recovery from certain infections.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

In the study of individual bacteria as the cause of diseases we should be familiar with the pathogenicity of each organism, the products of its growth in the body, what protective substances its presence will develop. As an illustration, a study of the streptococcus must take into consideration the various strains of the organism, the different infections in which it may be found; its production of an endotoxin, a hemolytic toxin (streptocolysin), and a leucocytic toxin. There is at times a toxin found in the blood, and in many cases of lowered phagocytosis. In the treatment of streptococcus infections we shall then have to use an antitoxin serum, as well as the bacterial vaccine.

The various infectious organisms, staphylococcus, pneumococcus, gonococcus, influenza and colon bacilli, and many others, should all be studied in the same way. Many cases are the result of a mixed infection, two or more organisms being present. Treatment of these mixed infections must consider all the bacteria present. Suggestion of Shafer as to the use of modified vaccines in these mixed infections.

PRACTICAL APPLICATIONS.

Vaccine therapy is not a panacea for bacterial diseases. Much may be accomplished by the prophylactic use of the vaccines in certain types of infection. They also have a distinct value in the treatment of many infections, acute and chronic, local and general. Each case requires careful study and attention, always making, if possible, a microscopic and cultural diagnosis, and using the proper dosage at the proper intervals.

Citation of cases illustrating the use of the vaccines in various infections.

Suppression of Convulsion in Eclampsia.—In two cases Wallace tried the treatment advanced by Murray. The 25 per cent. solution of magnesium sulphate was employed after sterilization. The dose was regulated by the body-weight of the individual patient, 1 c.c. being allowed for every 25 pounds of body-weight. A rough estimation of weight had to be made from height and bulk. The needle was introduced in the middle line between the third and fourth lumbar spines. In each case after injection an interval of freedom from convulsions ensued. In one case seven fits occurred during the seven and a half hours preceding injection, none during the subsequent seven hours.

INDICATIONS FOR REMOVAL OF THE TONSILS, WITH A CONSIDERATION OF SOME OF THE RESULTS OF TOTAL EXTIRPATION.*

By J. Morrison Ray, Louisville.

While this subject has been worn almost threadbare its importance requires us to consider it carefully, with the knowledge gathered from experience. The ever-increasing mass of literature relating to the subject is full of conjecture, confusion, contradiction and commercialism.

Prof. Swain, of Yale, says, "If we judge from the opinion of many recent writers the tonsils are a dreadful thing and any one who does not on sight enucleate every tonsil is not only derelict in his duty but a renegade, deserving lasting contumely.'

It is not my purpose in this paper to criticise the operation for complete removal of the tonsils, far from it, but to insist that the operator use judgment in selecting his cases, and surgical skill in carrying out the procedure. More scientific reasoning will bring about a more exact diagnosis and more specific indications for the operations and not accept the theory that because a child has a tonsil it should be removed. These essentials are obtainable by studying the anatomical development of the organ, its physiological life and its pathological appearance.

The tonsil, while small, is present at birth, having developed from the hypoblast by invagination, this process beginning about the fourth or fifth month of gestation. It has been shown that it does not develop like the lymph glands but more like the thymus and thyroid. In the first few months of life they become visible and by the time dentition begins they have become well recognized organs, receiving their full development between the fifth and seventh years of life.

Their exact anatomical location is immediately external to the angle of the lower jaw between the palato-glossus and the palato-pharyngeus muscle with its so-called capsule resting upon the superior constrictor muscle of the pharynx. It is ovoid in shape, varying in size under normal conditions. It consists of a mass of glandular tissue covered by epithelium and containing from fifteen to eighteen pits or crypts, these being more abundant in the upper two-thirds of the tonsil. Harrison Allen says a line can frequently be seen dividing the upper part containing the crypts from the lower triangular smooth portion of the gland. The space at the upper part of the tonsil left by the separation of the tonsillar pillars is known as the supratonsillar fossa and is of great pathological importance, being known as the point of infection in so-called quinsy. A fold of mucous membrane obtained from the anterior pillar frequently more or less covers the outer edge of the lower two-thirds of the tonsil, this is known as the plica triangularis and frequently covers the mouths of many of the crypts. The vascular supply is obtained from the tonsillar artery, the ascending pharyngeal, the ascending palatine and the lingual. The nerves are from the glossus pharyngeus and the tri-facial. The subject of the physiology and pathology of the tonsils has been seriously neglected by investigators and thus our text books contain but little on the subject. Available data as to its functional importance are meagre. Comparative anatomy shows that it is not a residual organ similar to the appendix by the fact that it is better developed in man than any of the lower animals of the same species. By many it is classed with the lymphatic system. In their histological make-up there are suggestions that lead one to include them with the ductless glands. That they play a part in assisting the salivary work seems to be certain. Their life history favors such a conclusion. Being very small at birth as soon as the teeth begin to erupt the tonsil assumes a size and position in the throat that indicates some purpose. This functional activity is greater between the ages of four and twelve, after which time they should undergo slow atrophy and by adult life they should remain only as small masses separating the palatal pillars in the normal state. Robertson says that clinically all children at the age of six years have tonsils and adenoids; at eight years, 85 per cent. have them; at ten years, 35 per cent.; twelve years, 15 per cent. Since the active age of tonsil development is at an age when the lymphatic system is most active they have been classes as a part of the lymphatic system. This is not entirely true since they manufacture leucocytes, they also excrete them and their excreting function is more active than their absorbent function. If they have a definite protective function it must be a source of danger to remove them during the time of life when this function is most active

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*Read before the Kentucky State Medical Association Louisville, Wednesday, October 30, 1912.

Experimental investigation has shown that the tonsil through its phagocytic action, is more active in destroying bacteria than in absorbing them and if they be removed the resistance to the entrance of pathologic organism is that much lessened. We must remember further that the faucial tonsil is only one link in the chain of glands found in the oro-pharynx and known as Waldeyer's Ring. The naso-pharynx and lateral column of the pharynx receive through the inhaled atmosphere a much larger proportion of micro-organism than enter by the mouth.

The idea that the presence of enlarged glands in the neck is due to absorption from the tonsils is often erroneous. The other portion of the lymphatic ring is just as liable to give rise to enlarged glands as is the tonsils and in some instances more so since it has been shown that the lymph current around the tonsil is less active than that of the pharynx. Take diphtheria, for instance, every practitioner knows that as long as the false membrane is confined entirely to the faucial tonsil we have very little gland enlargement but the moment the membrane spreads to the pharynx and especially the naso-pharynx the gland enlargement becomes much greater and the systemic infection more profound.

In regard to the tonsils as portals of entrance for infections it may be said that almost every infectious disease has been put down as caused by absorption from the tonsils. First and foremost at the present time stands rheumatism. Lennox Brown in the first edition of his text book was among the earliest to claim a relationship between tonsil inflammation and rheumatism. He asserted that both acute follicular inflammation and quinsy were the result of the rheumatic diathesis and this was the general opinion for quite a while. In later editions of the same book he modifies this opinion and doubted its truth. Now we find the statement that the tonsils are a cause for the rheumatism. This seems to have gained popularity through the text book of Osler and having been accepted by many internists they now insist on every rheumatic subject undergoing complete tonsil removal.

The question for decision is whether in rheumatism the poison enters the system through the tonsils by absorption or is it not a fact that certain inflammations of the tonsils occur frequently in patients with the arthritic diathesis?

A study of the subject brings out the following facts. If the tonsils are the main portal of entrance for rheumatic infection we should necessarily find it more often in children than in adults. Is this true? Endocarditis has been known to follow tonsillitis. It has also been known to follow pharyngeal inflammation in which the tonsils were absent or atrophic and not involved in the inflammation. There are a number of points of similarity in tonsil and rheumatic disease, for instance the season of the year influences both, cold, dampness, physical depression and vitiated air are all factors in both. Acute tonsil inflammation is always preceded by malaise headache, pains similar to those of rheumatism in the head, back and neck with tenderness over the sterno-mastoid and the cervical glands, a form of toxaemia. How many cases of acute articular rheumatism do we see follow acute tonsillitis, we may have during the acute febrile stage of rheumatism, a sore throat, which on inspection shows an angry red appearance, not only in the tonsil region but extending over soft palate, pharynx and into the naso-pharynx. Ingals, in a careful study of one hundred cases of acute tonsillitis, could find an intimate association between it and acute rheumatism is only 13 per cent. of the cases. Getchell says that in 2,000 cases of tonsil operations he had the heart carefully examined and noted before the anaesthetic was given and in only one case did he find a lesion probably due to rheumatism. He says if recurring attacks of tonsillitis are so prone to produce endocarditis he certainly would have encountered it oftener in these cases.

The question can be summed up as follows: Acute rheumatic infections are uncommon in children, acute tonsil infection is one of the most common. Acute endocarditis is essentially a disease of adult life, in adults the tonsils as a rule are atrophic or often absent. The activity now going on in radical tonsil surgery will in a short time go far toward solving the question whether we are to have less acute rheumatism in those free of faucial tonsils.

Another infection that has within recent years been put upon the tonsils is tuberculosis. A study of this question brings out the following: The tonsils are supposed to be an agent for carrying this infection either by first becoming infected from the sputum, the latter receiving the germ from the lungs or as claimed by some the infection may be primary from entrance through the mouth with food or otherwise. The former is certainly a rare condition as many of us have never seen a tubercular ulceration of the tonsil, and it invades the mucous membrane of the pharynx very rarely and then usually in the very last stages of general tuberculosis.

As to the absorption of the germ by the tonsil as a primary condition many doubt. Experiments have shown that the bovine form of tuberculosis will be absorbed from the tonsil of some of the lower animals. The lymph drainage from the tonsils as well as from the glands in the pharynx and naso-pharynx, is first into the superficial gland in the neck then into the deeper glands. It is questionable whether the tuberculosis infecting the lymph glands of the neck is human or bovine infection as it is usually a local lesion. Sewell, in over seven hundred tonsils examined found in only 6 per cent. of the cases any evidence of tuberculosis, yet many of the tonsils had been removed for what was considered a tubercular condition associated with chronic gland enlargement. Since the tubercle bacilli is more abundant in the air, the chances for the infection reaching the neck glands is greater in absorption by the naso-pharynx and pharynx from the inhaled atmosphere than from entrance per orem. Cornet's experiments having proven that infected dust is by far the greatest danger and most potent factor in propagating tuberculosis.

Color material has been shown by experiments to pass readily through the healthy tonsil into the lymphatic but no one has been able to cause pathological bacteria to do the same. It has impressed me that many of the so-called infections from the tonsils were cases of toxemia resulting from absorption of toxine, not only from the tonsils but from the lymphatics in the upper respiratory tract as well as in many cases, the digestive tract.

A great many other diseases have been ascribed to tonsil infection, for instance, recently Hunner cites cases of chronic urethritis and ureteritis he thought due to tonsil infection. To show how extreme recent literature has carried the subject the following ailments according to Rosenheim have been ascribed to tonsil infection: aneurism, appendicitis, bronchitis, erysipelas and a number of skin manifestations, meningitis, iritis, pleuritis, pericarditis, pneumonia, paraplegia, parotitis, nephritis, osteomyelitis, phlegmon of lower extremity oophoritis, orchitis, septicemia, strabismus, and typhoid fever. In fact all pathology sinks into insignificance beside that of the innocent looking, often unoffending tonsil. It is beyond the province of this paper to take up these conditions and attempt to prove or disprove any connection with tonsil disease. If I should admit the truth of the statement I could end this discussion by the statement that all tonsils under any and all conditions should be immediately slaughtered. The following seems to me to be a safe, conservative resume of the indications for removing the faucial tonsils.

In all cases of simple hypertrophy causing obstruction there is no very great difference of opinion. Usually a child poorly developed, often undersized, a mouth breather and restless sleeper, often hollow chested or stooped there is always an adenoid in such cases that requires removal, and the ear is in danger. Such tonsils can be entirely removed, after loosening the pillars with a snare or guillotine, sharp or dull.

The tonsil should be removed in cases of frequent recurring attacks of follicular tonsillitis. These cases are characterized by attacks of fever often running high, accompanied by general disturbances such as headache and backache. They interfere with the child's school duties and in other ways are a source of danger and annoyance. Such tonsils should be removed thoroughly in the capsule.

In relapsing attacks of peritonsillar abscess, so-called quinsy, which is usually a disease of adult life, the tonsil should be removed with the capsule, particular attention being given to that part of the tonsil extending into the supra-tonsillar recess. In growths originating in the tonsils, benign or malignant, every one will agree to operation. In malignant cases it must be done early if success is to be obtained. In so-called degenerate tonsils, essentially found in adults where the gland is bound down and buried beneath the pillars, and where the characteristic red line is constantly present extending along the anterior pillar much can be done by loosening the pillars and destroying the covered crypts by slitting them up or applying the galvano-cautery.

In certain toxic conditions where the crypts are large and contain decomposing masses, often particles of food that have become foul and which are characterized by general symptoms such as bad breath, lack of appetite, often anaemic and frequently gastrointestinal disturbances, wonderful results are obtained by the operation of tonsillectomy.

On the other hand the mere presence of an unoffending tonsil is no indication for its removal since under normal conditions they will disappear at the proper time, that is, when they are of no further use in the economy.

We constantly see patients reach adult life retaining quite a large mass of tonsil and perfectly unconscious of its presence. The removal may unquestionably alter the voice, since when removed in the capsule, the large fossa left fills up by granulation and sooner or later the two pillars become fused and vertically contracted, thus interfering with their separate functions and by restricting the free action of the palato-pharyngeus which by its attachment to the posterior edge of the thyroid cartilage aids greatly in voice production.

The normal tonsil secretes a mucous material that assists in lubricating the pharynx and in many cases after complete removal a disagreeable dry thick feeling remains for a long time if not permanently thus over-balancing any good effects brought about by doing away with recurring inflammation.

The operation is to be deprecated in children under four years of age except in a very few where the tonsil is excessively hypertrophied and interferes with the child's growth and nutrition.

It is not sound reasoning to remove a child's tonsils simply because one or more of its ancestors or other near relatives may have died of tuberculosis, as no conclusive clinical evidence has been brought forward to show that this child is any more susceptible to the disease with a normal tonsil present in the throat or that removal of the tonsils closes the portal of infection. The location of the tonsil is such that it is physically impossible for it to influence to any **great extent the** hearing and I am sure its removal is contraindicated in all ear diseases where the functional test shows involvement of the internal ear. The results in the cases reported from the clinic of Logan Turner show no benefit in those operated upon for chronic middle ear disease.

In enlarged cervical glands we cannot offer complete cessation of the gland enlargement, by tonsillectomy, on the other hand it is sometimes followed by increased activity in the glands ending in suppuration.

Lastly it does not offer immunity from throat trouble since the other links in the lymphatic chain remain behind and inflammation of the pharynx is as often followed by infection in distant parts whether the tonsil be present or absent.

THE UNEXPLAINED PYREXIAS OF EARLY CHILDHOOD.*

By W. A. Jenkins, Louisville.

Experienced clinicians, men who have the opportunity to see in institutional work large numbers of children over considerable periods of time, and even general practitioners in years of experience in private practice, have observed many a type of fever that may run days, weeks, or even, according to some authors, months. For many of these cases we have no adequate explanation to offer to the parents, or even to ourselves. If the fever lasts a short time we call it febrile(the little fever), if it lasts longer we give to it the meaningless, but euphonious title of idiopathic fever.

It is concerning this limited group that I wish to speak. From the standpoint of the clinician I desire to offer you a few thoughts based on personal experience, and to give you a few practical suggestions which I hope will help you to narrow this field and to approach the subject from a different, and on the whole, a more satisfactory standpoint.

First. Briefly, according to the physiologists, we know the actual sources of the production of heat in the human body are "(a) muscles at work; (b) glands at work; (c) all metabolic processes which are constantly going on in the minor tissues of the body."

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

Second. We know the ways by means of which heat escapes or is dissipated to be "(a) temperature changes in the air; (b) escape by the skin; (c) escape by urine and feces; (d) warming of food and certain anabolic changes.

Third. We know that the factors which regulate these two processes are chiefly (a) by means of the nervous system, regulating the distribution of the blood by its centers situated in the medulla and in the cord and perhaps in the sympathetics; (b) the physical properties of the blood, lymph and fluid constituents of the body as regard their heat capacity and circulatory movements.

These three broad propositions contain within themselves the essence and the solution of the problems which we seek so earnestly to solve. We must then presuppose a reasonably thorough acquaintance with these processes and mechanisms. Thus having a definite knowledge of the exact territory which we wish to explore and being in possession of the philosophical principles by means of which we can guage every activity or vital process encountered in said territories, we may now proceed to consider the practical clinical value from a diagnostic standpoint of thermometric observations.

Fever (temperature above the normal) from a clinical standpoint should be regarded as a danger signal. Although we all know that there are times when it is moderate in character, fugitive in time, and insignificant in results, yet in any case it should, and does, challenge us and places us on our guard. And we should in every instance endeavor to trace its nature and cause.

Ordinarily speaking when a child comes to us for examination we ask a few hurried questions of the mother or nurse who accompanies the little one. We look at the eyes, nose and throat and make a diagnosis, e. g. Follicular tonsillitis, mumps—perhaps one of the exanthemata, most likely measles—or, an acute disturbance of the gastro-intestinal tract, etc. But suppose we do not find the explanation so readily as this and the child is brought to our office a second, or, even a third time, what do we do then? We usually are satisfied to say "idiopathic fever," or the "growing fever" of some of our elderly rural practitioners. Now it is at this point, this parting of the ways (the new and the old way) that we make our mistake. In these cases which elude us we should redouble our energies instead of dropping the chase. In the type of case mentioned above it becomes our imperative duty to put the patient to bed at once, and to commence a thorough, careful, detailed examination. The history of the case should be gone over carefully and in a regular, routine manner. How many times is your toil and patience rewarded by hearing the mother say, "Doctor I have been thinking that matter over since you were here last and I am sure since I come to think about it that Mary has been drooping and losing a little for nearly two years and most of the time she has had that little dry cough, we thought it was her throat or just habit." Then a sensation of pleasure runs over you. You feel that you are on the track and getting close too. Now with an accurate history before you, you proceed with the physical examination and find an abnormally rapid pulse, and an area in which there are some crackling rales with increased fremitus. These rales do not disappear on coughing, or on changing position, or over night; they remain the same day in and day out. Your search is ended, the diagnosis is made. If the case is elusive we should have a regular plan of examination and employ it every time. The carefully taken history is invaluable, it is an art in itself to know how to keep from asking leading questions and thus forcing your own answer; to keep yourself in the background and tactfully bring out everything that pertains to the case. Many times the consultant who takes and keeps histories of his cases surprises his friend (the family doctor) who called him in to see the case, by eliciting some choice bit of information which was entirely new to the family doctor; in fact, he will often say "why Mrs. Smith you did not tell me that."

Second. A careful and painstaking physical examination must be had. This must be thoroughly and orderly. For example—begin with a certain system, as the respiratory system, and examine the nose, pharyngeal vault, throat, tonsils, larynx and chest; next the digestive apparatus, the circulatory apparatus, then the urinary apparatus, all in the same careful manner; then the general abdominal examination; then the examination of the nervous system. The subjective and objective symptoms should be looked into. Every orifice of the body is to be looked over for possible clues—examine the fingers, toes and joints for sores, tender spots, enlarged glands, etc.

Third. Special diagnostic procedures. The microscopical, bacteriological, and chemical examinations of the various secretions, excretions, exudates, transudates, etc., of the body. Under this head would come also the various serum and vaccine reactions. And, I wish to state, most emphatically, that the above mentioned procedures (when they are necessary) are neither Utopian nor out of the reach of even the cross-roads practitioner. The states and even the counties in many instances are establishing laboratories where such work can be properly done free, or at a very low rate. The medical schools are giving more attention to these things; they are requiring more of their students along these lines. Every man has his microscope and knows how to use it. Many of these tests are becoming more and more simplified and in many instances they may be employed at the bedside without the aid of costly or delicate paraphernalia. For example, the Widal test can be made at the bedside (without the use of the microscope). The same thing is true of the Von Pirquet test. How easy it is after a few words of encouragement to quietly introduce a stomach tube, obtain the contents of that organ and determine the percentage of free and combined hydrochloric acid; or, to look for tissue fragments or microorganisms with the microscope and so on throughout the list. Some of these special procedures furnish us at once with the key to the situation in cases that would otherwise have remained obscure.

Take the routine examination of the blood—we have leucocytosis, poikilocytosis, Widal test, culture tests and the detection of the presence of micro-parasites. Each one of these factors would have its own significance and that a valuable one.

The examination of the urine may furnish us with evidence of a pyogenic or tubercular focus in the genitourinary tract, or the findings may point to stone in the bladder, or a marked cystitis may be disclosed, or the finding of a colon bacillus infection may show the cause of a puzzling case of continued fever.

A careful examination of the feces will show evidences of lack of secretion of certain of the accessory glands of the intestinal tract, or point to cholelithiasis, or show parasites, or their eggs. It is very evident from a thorough study of the matter that we are not orderly, thorough, definite and logical in our methods. Instead of saying that the thin-chested, sallow-cheeked boy, with a hacking cough and occasional fever has malaria, it is our duty to get busy and find out what is the matter with him. The chances are that he has never had distinct chills (malaria) and that you have never made more than a hasty examination of the chest and that in a half-hearted way, and only one time. Make repeated, careful examinations of that chest. You ought to know that patches of dullness or crackling rales which remain stationary in position and intensity, week in and week out, in a growing child have more than ordinary significance. Make a Von Pirquet on him, have his blood examined, have culture tests made, inject some of this blood serum into the peritoneum of a guinea pig, exhaust all of your resources before you give up. The child is certainly worth it and the time is ripe. A consultant seldom ever has a case of tuberculosis brought to him in its incipiency; usually the individual is a walking physical wreck, past the point where he can be helped; his frame is wasted, his digestion poor and his respiratory capacity impaired by tubercular infiltration; he has marked daily rise of temperature and a pulse rate of 120. Now this condition did not come on suddenly, and he perhaps had a doctor all the time. Here is a child that is droopy, runs a fever that you are at a loss to explain, quinine did not influence it, then you thought perhaps it was mild typhoid. A careful urinalysis may show it to be a colon bacillus infection of the bladder. You have under your care a case of anemia, you have tried tonics and iron faithfully. Have the stools examined and you find hookworm or other parasites, remove these and your patient gets well.

Now what is the trouble in the above mentioned cases and whose fault is it? I grant you that it is in part the fault of the patient and the family. They tend to delay and procrastinate until much valuable time is lost, but are we not *particeps criminis* in the matter, in that we silently acquiesce? May we not by a united and constant effort educate the people out of this? And, again, are we not negligent ourselves along these lines? Do we not shirk responsibility and say "Oh he will outgrow it, or it is just a stomach cough," and we give him a cough sedative instead of an hour's physical examination. The great majority of physicians are very lax along these lines and it is our duty to better the matter. As physicians, *we must drop slipshod methods; we must be more thorough, we must be better prepared, we must keep up with the times, and we must be able and willing to apply every known diagnostic procedure that is likely to be of benefit to us in making a diagnosis.* But, says someone, "Granted that these things are true and that we have met all the requirements which you have brought forward, still there may be some cases of fever unexplained." Certainly it is entirely within the range of possibility that a small pelvic abscess, a deeply seated pylephlebitis or an obscure gall-stone case could give us temperature that we could not account for, even by all the above described methods and time alone, or a post-mortem examination, would tell the tale. Now, however, these cases will be found only occasionally, rather than being common and we will be free from reproach ourselves and at the same time will have the satisfaction of knowing that we have done all that scientific medicine could do.

In conclusion we must mention the possibility of a nervous origin for unexplained fever. Perhaps nervous control of the body is not fully established in childhood, the important nerve centers are in a state of unstable equilibrium, consequently the slightest thing may cause a rise in temperature—overheating (exposure to direct sunlight), faulty metabolism, or psychic influences in a highly nervous child. Those of us who do institutional work have had occasion to notice that some sick children nearly always have a rise of temperature on visitors' day. Fever of a nervous origin is usually very irregular, it may go very high but it falls very quickly, it may cease suddenly without explanation or discoverable local change. It usually occurs in an individual of a nervous temperament. Finally, we are only justified in making the diagnosis of fever of nervous origin *via exclusions*. Perhaps even then it would be best for us to consider the classification only as a provisional one until the ultimate cause could be established.

DISCUSSION.

J. W. Pryor, Lexington: It is needless to say that I have listened with pleasure and profit to this interesting, and I am sure, most important paper. Like the essayist, I am afraid I have little patience with a diagnosis of idiopathic fever, or a febricula. The day is past when a physician is compelled to make an immediate diagnosis in order to satisfy the family of his patient. If he is not able to come to a reasonable conclusion by ordinary methods, he should make an exhaustive examination, physical, microscopical, chemical, etc. While I am not so sure that an examination of the gastric contents is an easy procedure for the average practitioner, the von Pirquet, or perhaps the more simple Moro, the Widal and other tests, the microscopic examination of blood, urine, feces, and especially the examination for hookworm are within the possibilities of all practitioners. Well appointed laboratories are accessible to every physician, and he should be held responsible for not taking advantage of them, to make his diagnosis accurate.

We know that pyrexia is a symptom, and a reasonable explanation for elevation in temperature above the normal should always be found, but to do this we must have some knowledge of physiologic oxidations and metabolic phenomena. Of course, the amount of heat liberated depends upon the amount of potential energy transformed, a part of which is heat.

In homeothermic animals, like man, the chemic changes are extremely active, and are accompanied with an evolution of a vast amount of heat. This requires a regulating mechanism which will preserve an equilibrium between heat production and heat dissipation. This mechanism we say has its regulating center in the central nervous system. This is probably very complicated. I suppose it matters not, whether the corpus striatum, the optic thalamus, the septum lucidum, the cortex, the midbrain, pons, and medulla, individually or collectively, are concerned, in the regulation of heat production and dissipation. The disturbance of physiologic oxidation in the muscles and other organs could be easily brought about by the presence of toxins, bacterial or chemic, circulating in the blood, and exerting their influence upon the nerve centers. But we must think of what constitutes a pyrexia. The normal temperature of early childhood is much higher than that of the adult. Williams, in the London Lancet of May 4, 1912, gives the result of the examination of one thousand healthy children, between the ages of 12 and 14 in which 55.5 per cent. had a constant temperature of 99.6 and above. I am sure, if these facts were taken into consideration and all the modern methods of diagnosis were brought into requisition, there would be fewer cases of unexplained pyrexia in early childhood.

W. W. Anderson, Newport: Just a word on the paper of Dr. Ray. If I understood him correctly, he stated that acute endocarditis is essentially a disease of adult life. I do not think such a statement should pass unchallenged. I recall, without having case records at hand, a case of acute endocarditis at as early an age as five months, one at eight, one at thirteen months, two at three years, three at six years, and many others in adolescence and youth, and in my experience, the most violent and aggravating cases, the most dangerous cases of acute endocarditis have occurred in childhood and adolescence. Disease of the valves of the heart due to endocarditis of the acute type is far more common in childhood and adolenscence than it is after maturity, and if we could cut out of our valvular disease list those who have had this trouble in youth and childhood, and then cut off the other extreme, those who show evidences of degeneration in the aortic valve, in middle life or later we would cut down the number of cases of valvular disease enormously until they would not be more than about one-fifth as common as they are. If we look for endocarditis in childhood, we will find it many times. We take it for granted that it is not there, and do not look for it frequently. As I recall in an offhand manner, I remember of the cases of endocarditis in children one-half of them were associated with tonsillar or faucial inflammation. I do not say they were rheumatic, because the term rheumatism needs restriction, and I will not even make the guess as to whether rheumatism is influenced by the tonsil. Tonsillar disease is associated with arthritic infection very often, but I am not sure that it is rheumatism. We must get away from the indiscriminate use of the term rheumatism since so many people and doctors call anything that hurts rheumatism, from an aching corn on the foot, to an aching void in the cranium. Let us restrict rheumatism to something definite, and then we will know more certainly whether it is associated with tonsilar disease or not.

James O. Carson, Bowling Green: I wish to heartily endorse Dr. Ray's most excellent paper on the tonsillar question. We are fortunate, I think, in having such a wise and conservative man to state the present tonsillar situation. Were I going to write a paper on that subject, myself, I would not only agree with him, but would say about what he has said, though not quite so well. The one point I should like to emphasize is that with reference to rheumatism. So many things are called rheumatism every condition causing an ache or pain, somewhere, is frequently called rheumatism, even if due to the absorption of various toxins; so it is not always a case of rheumatism when we have aches, pains and soreness in connection with infections of the tonsils.

In regard to Dr. Hall's paper on phlyctenular conjunctivitis: that affection of the eye is nearly always, the result of improper nutrition. The clear part of the eye not having an abundant blood supply is one of the first things to become affected in cases of bad nutrition. I find in nearly all my cases, they are excessive users of sweets, or, no matter how young, also use tea, coffee, coca cola or similar drinks. Is a disease of improperly fed children, and when they are not permitted to eat the things they should not eat would frequently get well themselves; certainly would greatly aid proper treatment.

— — **Purcell**, Louisville: In reference to Dr. Ray's paper, it shows conclusively that the tonsillar question has not as yet been decided by the profession. It shows also that a good many of the procedures, as advocated by the different operators over the country, are not what the profession expected of them. I was much impressed with his idea of conservatism. In other words, I was very much impressed with the idea that all tonsils should not be removed. I was just a little bit disappointed, however, that he did not say more about the method of removal, and if it were possible to give some of the exact conditions that would guide us in the removal of the tonsils.

There is one point in connection with the tonsillar question that I think has not been sufficiently urged by those who have attempted to write and speak on this question, and that is the question of bacteriology. It is a very frequent thing in this day of serum therapy that every patch on a tonsil, every ulcer, or every membrane so-called, every case is subjected to the administration of antitoxin. Now, that is not exact therapeutics. Those of us who are fortunate to be in contact with a good bacteriologist will have the means of classifying our cases so that we can make a complete diagnosis and render absolute scientific therapeutics.

I was also very much impressed with certain pictures he presented here of the bad results of tonsillar enucleation. Ever since complete removal of the tonsil has been advocated, I have spoken on every occasion that I had the opportunity to protest against certain forms of tonsillar removal, and I refer to any method of removal whereby the pillars of the tonsils are injured, and I have seen case after case that are well represented by certain drawings that he has presented, where there has been an injury of the posterior pillar, and as a result of that there has been interference with the voice, and our patients very frequently ask us if any bad results follow the complete removal of the tonsils.

I can say in that connection, that if the tonsil is removed completely, without any impairment of the pillars of the tonsil, there will be nothing but improvement in the voice; but if there is any injury, or if there is any sloughing following the removal of the tonsils, there is going to be a bad result.

J. M. Ray, Louisville, (Closing the discussion): I have nothing in particular to say with reference to endocarditis as referred to by Dr. Anderson. I do not see children in a general way so I am not in a position to state the frequency of endocarditis in children. I took my statements from the text books and the statement of Getchell in his observations on children in two thousand tonsil operations, he only found one case in which there was damage done to the heart, and this patient gave a history of acute heart trouble.

With reference to the remarks of Dr. Purcell as to the character of the operation or mode of procedure, it does not come within the scope of my paper, but I can say along this line that I believe a small portion of the tonsil below can be left without danger and the chances for a better throat later in life is greater.

THE CARE OF THE NEW BORN.*

By T. A. Frazer, Marion.

You may think this is a rather novel subject to bring before this Association, and in some respects it is. Most of us take it for granted that any one is competent to deal with the babe after its exit from the parturient canal; but there is great responsibility in caring for the infant at this period, and during the first twenty-four hours. The saving of an infant at this time may mean a great deal to society. We do not know when a great man, or great woman is being born; a great statesman, a great lawyer, a great inventor, a literary man, or even a great doctor. Therefore we should use every means possible to save the young life that may mean so much to society. We must not consider it only a baby.

I will only deal with the babe for the first twenty-four hours, and I can only touch the most salient points as the subject is a large one, and it would take too much time to go into all the details.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

When a baby is born if it gives a vigorous cry all is usually well with it. This cry is purely a reflex action caused by the shock of being removed from an aquatic existence, where the temperature was about 99, to a temperature of not more than 70 degrees. This violent shock produces a spasmodic action of the diaphragm and all the muscles of respiration, also of the bladder and urine is usually voided immediately after birth. All the muscles of the body come into action and the hands and feet are moved quite violently. If the child emits a vigorous cry it is evidence that the air passages are clear; but if there is struggling without a cry it is due to mucus or other foreign material back of the epiglottis that has been inspired during labor. This being the case the little finger can be crooked and introduced back of the epiglottis, and the foreign material removed.

The infant should then be placed on its right side, this posture favoring the closure of the foramen ovale facilitating the passage of the blood from the ascending cava over the Eustachian valve into the right auricle. The position should also be arranged so as to turn the child's face from the mother's genitals, and to protect the infant's air passages from the maternal discharges incident to labor, care should be taken also not to put the cord too much on the stretch for during this time of course the child is attached to the mother by the cord.

The question now arises as to whether we should sever the cord and get the child out of the way or wait until the cord ceases to pulsate. At this time there remains a considerable quantity of fetal blood in the placenta, and the early severing of the cord deprives the infant of a considerable amount of blood that it is entitled to, therefore we should not cut the cord as long as there is strong pulsation, unless there is some special reason for an early separation of the child from the mother. Children are stronger and more vigorous if we wait for pulsation to cease than when the cord is cut early. Experiments have shown that the child gains several ounces in weight and is, therefore, better fortified to withstand the suddenly changed environment. The cord should be tied about one inch from the child's belly and another ligature about two inches towards the placenta, and severed between the ties. Great care should be exercised in ligating the cord as we do not know when we have a "bleeder" to contend with and a doctor who has not come in contact with one of these does not realize what it means. I use sterile braided silk for ligatures and find it more satisfactory than any other article. There are many different tapes and other forms of ligatures on the market, and I have tried most of them but the braided silk is strong, and has the advantage of burying itself well into the cord without cutting it, and can be drawn as tight as you like. After the cord is securely tied you should place a cord between your fingers with the back of your hand resting on the infant's belly and hold it in a way that you can not injure the fingers or toes, and if a boy the penis with the scissors. A cord should never be severed with any but the umbilical scissors which should be sterile. There is great danger of infection of the newly born babe through the cord and investigation shows that a large per cent of the infants that die during the first two weeks is due to peritonitis, and that the germs find their way through the cord to the peritoneum. These facts are brought out in the post-mortem examinations. Now that the cord is severed the next step is to prepare the youngster for its clothes. The first thing to be done is to wash the eyes, and this should be done thoroughly as there is great danger in ophthalmia neonatorum. It is my rule to wash the eyes with a solution of boric acid, and then drop into the eye a solution of nitrate of silver, and, if this was done in every case, we would obviate the danger to the eyes that the average child is subjected to. The child should be well annointed with some form of oil, and I prefer vaseline, or olive oil for this purpose. I have the nurse to wash the infant very thoroughly, and rub it dry with a soft cloth. I think it well to rub it rather vigorously as this will stimulate the capillary circulation, and help to warm it so that the change in temperature will not be so depressing. The next step will be the preparation of the cord, and this is one of the most important procedures in the care of the newly born. Many methods have been recommended, but the most simple and most aseptic is the one we should adopt. We should remember that the infant mortality from peritonitis is high and that the seed of this disease are generally sown in the stump of the cord during or immediately after it is severed. We should also remember that a dry stump is what we want therefore, our dressing should be applied with this end in view. I prefer a free application of alcohol to the stump followed by the following dusting powder, which is both aseptic and absorbent: salicylic acid gr. xv, boric acid gr. xxv, pulverized zinc oxide ii drachms pulverized amyli q. s. oz i. After the stump has been well dusted with this powder it is ready for the final dressing. I use lintine to cover the stump before the binder is applied, and my method is as follows: Take a piece of sterile lintine four inches square and cut a hole in the center, pass the stump through the hole and fold the dressing over the cord in a way that no part of the cord can come in contact with the belly of the child. Place the binder over the lintine and do not remove this dressing until the stump is ready to drop off unless it becomes soiled by feces or urine. The soft side of the lintine is placed next to the skin, and it will absorb any secretion that may be present. Some authors recommend that the cord be dressed every day but I can see no good in this procedure as you will expose the child to the possibility of infection every time you remove the dressing. I want to unqualifiedly condemn the practice of having the nurse change this dressing at will. No surgeon would permit the nurse to change the dressing at will following an operation, and it is just as logical for the surgeon to permit these things as it is for the obstetrician. We are surely dealing with a surgical condition and we should be just as careful to secure asepsis and maintain it.

The clothing should be warm enough and not to warm. The infant should be clothed according to the temperature. Just enough clothes to keep it warm, and not enough to make it uncomfortable. I have no patience with the old idea of putting flannel on every infant winter and summer; but I want to make the child comfortable. There is more superstition clustering around the lying-in-chamber than most any other place I know of, and we should teach our mothers that superstition is pure and undefiled ignorance; that the sooner we get away from these things the better it is for us.

The newly born babe does not need nourishment as soon as it is born therefore we should instruct the nurse that the mother will supply the nourishment as soon as its body needs it. I give the infant a few spoonfuls of hot water during the first twenty-four hours and find that this quite satisfies its appetite.

I tell the mother and nurse that there is no more reason for giving a baby medicine unless it is sick than there is for giving it to a pig or pup. I also tell them the danger of soothing syrups and the various nostrums that are recommended for infants.

Rest-Cures in Theory and Practice.—If an hysterical patient is treated as a neurasthenic, Miller says the results will be entirely transitory. If a neurasthenic is treated as a hysteric, there will probably be no results at all. If a patient with neurasthenia due to eye-strain goes through the orthodox Weir-Mitchell cure, he will improve rapidly at first, slowly toward the end, and instantly relapse when he resumes work; all because the basic factor of uncorrected astigmatism was ignored. All cases of toxic neurasthenia, Miller says, tend to improve on account chiefly of the massage.

THE PASSING OF DESTRUCTIVE OPERATIONS IN OBSTETRICS.*

By Edward Speidel, Louisville.

It is a well known fact, that in the early days of obstetrics, destruction of the child was resorted to very frequently, in fact when nature's resources were exhausted, the only method of delivery known in those days was by the use of blunt and sharp hooks.

The advent of the forceps and the revival of version, soon brought about a decided improvement in the methods of the obstetrician, and many cases that before that time were subjected to embryotomy, were now safely delivered.

With the further progress of medical and surgical science, and especially with the introduction of antiseptic and aseptic surgery other methods have either been revived or improved upon, making it possible more and more, to restrict the cases in which a destructive operation would be justifiable. As a result, the late editions of our text books differ considerably in the list of conditions in which destructive operations are allowable at the present day, from those given in earlier editions, ten and fifteen years ago.

Most of the modern text books generalize, when outlining indications for embryotomy on the dead fetus.

Edgar considers it indicaed, if the fetus is dead and delivery of an unmutilated fetus would increase the danger to the mother.

Williams advocates craniotomy on the dead child under any conditions that render the delivery of a mutilated child the most conservative procedure so far as the safety of the mother is concerned.

Hirst advocates craniotomy upon the dead child, if the mother can be saved any additional risk or suffering by the rapid delivery of the mutilated child, claiming that it is far better to open the head and to deliver easily with a cranioclast, than to apply the forceps to the head at the superior strait and to subject the mother, to the delay, pain and danger of a prolonged forceps operation, when nothing is to be gained by it.

As to craniotomy on the living child, all authors at present agree that it is only justifiable under exceptional circumstances.

It must not be forgotten, that there is a religious element to be considered also, when craniotomy or any other destructive operation is to be performed, for according to the rules of the Roman Catholic church the operation is not sanctioned under any circumstances. Accordingly unless the obstetrician has the authority and consent of the proper persons, he lays himself liable to a great deal of trouble, when he performs such an operation upon a member of that faith.

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*Read before the Kentuckp State Medical Association, Louisville, Wednesday, October 30, 1912.

In view of the progress in obstetrical science, it is a question whether one is not opening the way for an annoying damage suit, if a destructive operation is performed upon a living child except as a last resort.

There is no doubt that destructive operations are becoming very infrequent in the larger cities with good hospital facilities, but the old law that proper aid cannot be given an obstetrical patient in the country districts will no longer hold good. The community must be exceedingly small and behind the times, that has not within its confines or within reasonable reach by rail or automobile, men skilled in surgical work and so the excuse that craniotomy is justifiable in the country because nobody is accessible who can perform a Cesarian section is no longer tenable.

Another point that well may be questioned, is as whether a destructive operation on the living or dead child is such a safe operation in regards to the mother. The writer in a rather large obstetrical experience of seventeen years has performed four destructive operations upon the dead child, two in private, and two in hospital practice and he counts part of that work as the most difficult and dangerous to the mother that he has ever attempted, in spite of the advantage in two of the cases of hospital surroundings. What then must be the status of affairs when a practitioner so far from the bounds of civilization as to be unable to secure surgical assistance is to perform such an operation.

True enough Hirst declares, that it is easier to perforate the head and apply the cranioclast and deliver the mutilated head than to do a high forceps operation, but does the practitioner in the remote country districts carry a cranioclast or the other proper instruments for a destructive operation. I admit that I carry nothing but a perforator and craniotomy forceps in my armamentarium. It must also be conceded that in regions so inaccessible to surgical assistance, that you would encounter unsanitary surroundings and unskilled assistance so that in every such instance it could be judged that the mother would be subjected to the danger of severe infection at the performance of such an operation.

In a meeting of this society four or five years ago a member made the statement that he had performed craniotomy twelve times. The discussion that followed upon that remark showed that the other members of the society had not had anything like such an undesirable experience.

Edgar reports having had four destructive operations in 2,300 labor cases, consequently no obstetrician can lay especial claim to any ripe experience in the performance of these operations and it may well be questioned then, as to how much danger the mother is subjected to, when such formidable instruments as the cranioclast, cephalotribe or blunt and sharp hooks, are used within her by inexperienced operators not only in unsanitary surroundings, but also under absolutely abnormal conditions for we must remember that these operations are rarely necessary except in deformed and distorted pelves, or with unduly large or abnormal children.

No doubt many women upon whom these operations are performed, die of severe septic infection, due to unskillful and unprepared manner in which such operations are carried out and that, in the course of a procedure that should be without maternal mortality. It is the writer's opinion that with one exception, a destructive operation is never justifiable upon the living child and except in very rare instances, it should not even be performed upon the dead child and for the following reasons:

If the child is living and the delay is due to a moderately contracted pelvis then we have the choice between a podalic version and a pubiotomy for a safe delivery. The aftercoming head with the narrow chin point entering the superior strait and with the head elongated by traction, will easily pass through a diameter, that it would not enter as a vertex presentation. With a still greater degree of contracted pelvis some authors still advocate pubiotomy, although late reports of permanent disability following the operation seem fair in a few years to make it as obsolete as symphysiotomy.

In greater degrees of pelvic contraction or with other abnormalities such as tumors at the pelvis inlet and abnormalities about the fetus, Cesarean section in the hands of a clean and moderately skilled operator as should be in reach of every civilized community, surely offers the mother a better chance for her life and less danger of septic infection than the mutilating operation done in such narrow quarters, with unskillful hands and improper instruments.

The occasion should even be rare, for the performance of destructive operations upon the dead child. Every obstetrician is more skilled in the performance of version than in these destructive operations.

If the bag of waters has not ruptured a podalic version, and delivery should be easy in cases of moderate pelvic contraction. If the waters have ruptured, the child may be safely turned under deep surgical anesthesia with but little danger of rupture of the uterus, if the operator understands his business. The writer has at times returned a head that was nearly down upon the perineum, into the uterus and performed version without danger to the mother. If it comes to the worst in such cases of moderate pelvic contraction, the only difficulty would be with the aftercoming head and that could be easily met in one of two ways, either by a clean cut with the scissors in the middle of the anterior lip of the cervix or a perforation of the aftercoming head, a procedure that with traction upon the body would practically be performed at the outlet of the vagina and subject the mother to no risk whatever.

When it comes to the performance of destructive operations within the pelvis with a true conjugate of two and one half inches or even less and other accompanying distortions, only those who have had actual experience in such exhausting and disgusting work, can tell of the difficulty and danger of manipulating sharp instruments in such narrow quarters and to my mind it is far better under such circumstances to deliver the dead fetus by Cesarean section, than to subject the mother to the danger of mutilation with instruments and septic infection, besides with Cesarean section, the mother can at the same time be sterilized if desired in order that she may not again be subjected to the danger of another conception.

That these destructive operations are justifiable under exceptional circumstances upon the living and dead child can not be denied.

The writer would limit the scope of destructive operations upon the living child to cases of undoubted hydrocephalus, the head to be perforated in such cases at the superior strait and the perforation carried to the base of the brain to destroy the respiratory center, for without this precaution the child may with its perforated head be born alive.

It seems but an act of humanity to me to destroy such an hydrocephalic infant rather than to subject the mother to unusual danger to bring forth a living child, that is either idiotic or succumbs a short time after birth.

A destructive operation is necessary according to my experience upon the dead child in impacted shoulder presentations with the arm prolapsed into the vagina but the writer adopts a simpler and safer procedure than that advocated in the text books, decapitation in these cases.

In two cases of this kind the upper arm was grasped with gauze and drawn well down into the vagina to the vulvar opening and then twisted off at the shoulder. It is easy then to introduce the hand grasp a foot and deliver as after podalic version. Every one who has ever tried to replace the prolapsed arm in the uterus under these circumstances knows how difficult it is and how quickly that arm slips down again if any other manipulations are attempted and yet with that prolapsed arm in the vagina it is impossible to pass the hand up to perform a version. That this method of amputating the arm is much easier than the method suggested by the text books of decapitation and delivery of the severed aftercoming head will readily be agreed to by any one that has practiced the latter operation.

Two of the destructive operations all upon dead children that the writer performed were of the impacted shoulder arm variety. Both seen in consultation and delivered quickly and without danger to the mother by the method described. The other two cases were extremely unusual. One a large heavy woman giving birth to her fifth child. Delay in the labor called for a forceps delivery but when the head was out of the vulva no further progress could be made even with extreme traction. In this case decapitation and exisceration were practiced for four hours without being able to complete the delivery. When just about to give up in consequence of extreme exhaustion, the hand succeeded in passing a tight constriction at the middle of the uterus, although the uterus immediately contracted down and almost paralyzed the arm of the writer, but in the mean time a leg had been seized and with the next relaxation of the uterus the leg was quickly brought down and the mutilated body delivered. This case was an intrapartem hour-glass contraction of the uterus was about the most horrible case in my experience. The fourth case seen at the city hospital, a deformed negro dwarf was brought into the institution with a baby's head protruding from the vulva with the history that it had been there for four hours. Upon making traction upon it the body was decapitated the shoulders could not be reached with the fingers but by grasping a portion with hysterectomy forceps making traction, advancing other forceps, a purchase was gotten upon the child's body and delivery effected. The pelvis was so deformed and the conjugate at the superior strait so narrow that the hand of the writer could not be introduced for the necessary manual removal of the placenta, and still in spite of that, nature had forced the head of a full term child through these narrow quarters. The patient recovered after a severe septic infection, was brought to the hospital again two years later, pregnant again, in the service of another obstetrician was delivered by Cesarean section after considerable previous manipulation on the outside and died later of puerperal infection.

From these cases and a rather large experience with all obstetrical complications, the following conclusions are presented.

1st. Craniotomy is justifiable upon the living child in undoubted cases of hydrocephalus.

Under all other circumstances delivery should be effected by abdominal Cesarean section, if not possible by the vaginal route.

2nd. A destructive operation is necessary upon the dead child in impacted shoulder presentations. In all other cases, delivery should be attempted by version and in extreme cases of pelvic contraction even the dead child should be delivered by Cesarean section, as the safest and most conservative method for the mother.

DISCUSSION.

Wm. B. Dougherty, Louisville: I must take exception to the view of the essayist in reference to destroying a living child in this age of surgical progress, under any circumstances. We must remember that the child as well as the mother has its rights, that it is not responsible for having been placed in its mother's womb, and the sacrificing of its life wilfully and intentionally is a violation of the fifth commandment of God: "Thou shalt not kill."

Allow me to present briefly an analagous case, and the decision arrived at by Judge Coleridge, Lord Chief Justice of England. On July 5, 1884, three sailors, Dudley, Brooks, and Stevens, and a boy; part of the crew of the British yacht Mignonette, were cast away in a storm at sea, and were compelled to take to an open boat with little or no provisions. Having been without food for seventeen days, it was suggested by Dudley and Stevens that one should be sacrificed to give food to the others. They spoke of their having families and their lives were more valuable than that of the boy. Brookes dissented, and the boy to whom they referred was not consulted. The boy was lying in the bottom of the boat quite helpless, weak, and unable to make any resistance, nor did he assent to be killed to save the others. Dudley with the consent of Stevens went to the boy and put a knife into his throat, and killed him. They fed on his flesh for four days and were picked up by a passing vessel and rescued, but in a state of extreme prostration. They were taken to Falmouth, England, and committed for trial; the charge being murder. Their defense was, that there was no chance of saving their lives except by killing some one, for the others to eat. It was found that the boy was incapable of resistance, and was not an unjust aggressor against the lives of the others, and the only plea urged for the taking of his life was that of expediency. The prisoners were sentenced to death, but appealed to the mercy of the court pleading ignorance.

The foetus is not an unjust aggressor against the mother's life, and is there at the desire and action of the mother. So much for the moral and legal aspect of the case.

But looking at the question entirely from the scientific standpoint, is there any necessity to kill an unborn child intentionally, while the operation of Cesarean section is likely to save the lives of mother and child and is scarcely less dangerous to the mother than that of craniotomy? The duty of the physician is to preserve and prolong life, not to shorten or destroy it. I, therefore, believe we are not justified under any circumstances to kill, by direct intent, any human being, whether one month, ten months, or a century old, whether hydrocephalic or deformed, whether syphilitic, or tuberculous, insane, or idiotic, except in self defense, or in defense of our lives and for the liberties of our country.

There is no standard as to the size of the fetal head and many hydrocephalic children have lived and grown to be good and useful citizens.

The brilliant achievements in abdominal surgery by technique and sterilization have placed the operation of Cesarean section in the present day less dangerous than the opening of an abscess fifty years ago.

Therefore, craniotomy on a living child is a repulsive and unscientific operation and should be relegated to oblivion, and the scientific and lifesaving abdominal operation of Cesarean section substituted.

A Member: In the paper on intestinal obstruction I do not believe the author mentioned an agent which I have used a number of times with good results in cases of beginning ileus. We can often avoid operation in cases of post-operative ileus by using eserin salicylate in one-fortieth or one-thirtieth of a grain, repeated every three or four hours, if necessary, because contraction of the involuntary muscles gives good results. It is an agent that the veterinary surgeon uses for horses, and it is good for human beings.

I. A. Shirley, Winchester: The gentleman who has just spoken (Dr. Doherty) lives in the City of Louisville; he does not live in some remote hamlet yonder in the mountains, fifty, a hundred, or two or three hundred miles from a hospital and from a competent surgeon. What can you do sir? Human conscience dictates whether you will let two souls die or sacrifice the child to save the mother. Given those conditions, if we can get a surgeon to do the operation, all right, but if we cannot and either the child or mother must die, what would you do? Common sense says sacrifice one and save the other.

Wherever well appointed hospitals and competent surgeons are accessible surely no one would want to do anything but Caesarean section when the child is living. The gentlemen who have spoken are surrounded by such happy conditions but the fellow who lives remote from such an institution and competent medical man what must he do when confronted with apparently insurmountable opposition? I contend that the decree of the great church that Dr. Doherty quotes has nothing to do with it: We alone are responsible for the lives of our patients and must act as our best skill and judgment dictates. As for me, when I find myself up against such a problem, when, if nothing is done, both must die, I shall do in the future as I have done in the past, sacrifice the unborn babe to save the mother, authority, however so prominent, to the contrary notwithstanding.

B. P. Earle, Charleston: In discussing the essayist's paper, I desire to report the following case: On July 28th I was called to see a lady, thirty-four years old, para four, of a medium stature and with a well-developed and capacious pelvis. On my arrival at 6 p. m., I found her, as she stated, in labor since 8 a. m. The membranes had ruptured at 2 p. m. She was having some slight pains, which gradually subsided and entirely quit by midnight.

I remained with her until morning, and left, expecting to be recalled at any time. I heard no more of my patient until October 9th, at 4 a. m.. I was again called; the distance being eight miles, I did not arrive until half past six. I found the parts well dilated and labor fairly under way. The cord had come down, and a loop about four inches long was hanging out. I had her placed in the knee-chest position, and with my hand I replaced the cord, passing it well up into the uterus and above the head. The pains were rather feeble, and I gave her eight grains of quinine. Kneading the bowels, later on, I gave one dram of Squibb's fluid extract ergot, with no improvement in pains. At eleven I concluded to use the forceps, but after an hour's trial I had to give up the effort, having failed to introduce them. So I then asked for consultation. Dr. C. N. Ferguson was called, who arrived at 3 p. m. After examination he thought it right to give more ergot and quinine and use more kneading after trying for two hours with no advancement. The cord, however, had again come down, and we again, after the same plan, returned it, but it would not stay. We then gave chloroform and attempted to use the forceps.

Dr. Ferguson trying to introduce them, after an effort of twenty minutes succeeded in getting in the first blade, and after a fruitless effort of half an hour at introducing the second blade he gave up, and I undertook the job. After an effort of forty minutes I succeeded in introducing the other blade and locking the forceps, but the handles stood wide apart and could not be closed. I then tried with all my power for considerable time with no progress. Dr. Ferguson, a man of two hundred pounds weight, and very muscular, tried for a while; then we both alternately tried for an hour—still no progress. By this time we knew the child was dead, and we determined to open the head and let out the contents. Wrapping a scalpel to within a fourth of an inch of the point, and introducing it between my fore and middle fingers till I reached the fontanelle, and then with my right hand I inserted it into the head and cut an opening three-fourths of an inch long. No sooner had the knife passed into the cavity than the water spurted out over me, the floor, and ran down into the chamber until it was most full. I then proceeded to deliver the child, which was accomplished in about five minutes. After waiting a half hour the placenta did not come down, and I introduced by hand and found it firmly adherent to the anterior of the uterus, and was compelled to remove it entirely with my fingers. We had no unusual hemorrhage.

Having seen our patient comfortably placed in bed and for the time being doing well, we turned our attention to the child to see what we had. First filled the head with water as well as we could, but could not make it tense, the scalp remaining in wrinkles. It then measured twenty inches around, occipito-frontal measurement. We agreed that if we could have filled it full it would have measured at least twenty-three inches. Next we noticed that it was very long, and upon measuring we found that she measured twenty-six inches long, and was more than usually developed. We, however, neglected to weigh it, which I very much regret. The best estimate we could make of the amount of water discharged was seven pints.

The after-treatment consisted of fifteen grains of quinine per day, three days, and the vagina and uterus douched out with hot water, half-gallon, carbolic acid, one dram, twice a day, for fifteen days. Her recovery was uneventful.

This case was a very interesting one to us, owing to its many and unusual complications, funis presentation, hydrocephalus, and retained placenta—the membranes rupturing seventy-two days before the fetus was born. I wish to add that the lady—who is one of fair intelligence—contends stoutly that she knows from unmistakable evidence that her time for confinement was fully up when I first called, and that she carried the child nearly twelve months. I mention this fact for what it may be worth.

Edward Speidel, Louisville, (Closing the Discussion): I made the statement that in the undoubted cases of hydrocephalus, and that means in those cases in which there is no doubt about the diagnosis, it is better to perform craniotomy. On the ground that it is inhuman to subject a woman to a long tedious labor endangering her life to give birth to a child that is an idiot and if it continues to live as unfortunately too often they do, is a burden upon the family or the community for life. If the family object to a destruction of the child under such circumstances on religious grounds, then they must take the responsibility of the outcome of the case.

The most important thing to remember in cases in which craniotomy is apparently indicated is that in the majority of instances there is no need of haste on account of the mother. If the woman is exhausted from the ineffective labor pains a few hours rest under a hypodermic of morphine will often work wonders in changing the entire aspect of the case. The tired physician after a good sleep will often see his way clear to deliver a case that seemed to present all kinds of obstacles before. In cases that do not make any progress you can in a few hours communicate with some surgeon or obstetrician who will reach your place and perform Cesarean section under conditions that will very often result favorably. Even if the surroundings are not ideal, this operation can be performed in emergencies in private houses by men who are accustomed to asepsis, and the use of such instruments, and these patients in such remote places have such superior vitality that they will recover in spite of the unaseptic surroundings. I claim the conclusions in my paper will reach cases of that kind, and I believe with some experience in that line the gentlemen will agree with me.

PERINEPHRITIS.*

By W. L. Cash, Princeton.

At the very outset I beg to acknowledge my indebtedness to such authors as Holt, Wilcox, Brewer, Bryant and Buck for much helpful material and valuable information in the preparation of this paper.

The kidneys, two in number, are situated in the back part of the abdomen, one on each side of the vertebral column. They are placed in the loins, behind the peritoneum, and are surrounded by a mass of fat and loose areolar tissue, and it is this loose areolar and cellular tissue around the kidney that is affected in the diseased condition which constitutes the subject of this paper hence, "Perinephritis" is a term applied to an inflammatory condition in the tissues surrounding the kidney and may terminate in resolution or suppuration. The symptoms of this condition are paranephritis and perinephritic abscess.

Perinephritis may be due to injury, to disease of the kidney itself or to an extension of an inflammation from neighboring parts through the lymphatics or blood current. It is most frequently caused by disorders of the urinary tract, which renders all parts of the apparatus susceptible to inflammation, or by direct violence applied over the loin, rather than by inflammatory extensions from such other parts as the liver, gall-bladder, spleen, appendix, caecum and vertebra. When it results from suppurative processes within the kidney itself, whether from calculi or tuberculous deposits, it is known as secondary perinephritis, though it may be of primary occurrence, and in children the primary form is most frequently found, its existence being attributed to traumatism, cold or exposure, or it may exist without assignable cause.

Primary nephritis is usually acute or subacute in its course, though very rarely it may be chronic.

Primary perinephritis is most likely to be confounded with hip-joint disease, or caries of the spine and these are the conditions from which we must differentiate it in arriving at a diagnosis. In instances of perinephritis secondary to other disease, the symptoms of the primary affection are present; suppuration of the perirenal tissues is manifested by pain and tenderness upon pressure in the neighborhood of the kidney, and after the formation of pus, there are chills and irregular fever and sweats. The onset of primary perinephritis may be quite abrupt, with rigor, elevation of temperature and pain over and around the region of the kidney affected. However, the onset may be somewhat gradual with lack of mobility of the spine, a maimed gait, the gait being characteristic, the body is bent forward and toward the affected side, and the thigh is never fully extended in walking owing to the contraction of the flexor muscles of the thigh. On account of the pressure of the suppurating mass upon the nerves of the lumbar plexus, terminal branches of which are distributed to the vicinity of the hip and knee joints, the pain in many cases is referred to these joints as well as to the kidney. The maimed gait may come on slowly and the foregoing symptoms may be two or three weeks developing and are usually accompanied by a slight rise of temperature. As the disease progresses, the temperature is constantly elevated and the deformity usually increases until finally the patient may be unable to perambulate. However, in the most acute cases, there is a high elevation of temperature and profound prostration from the incipiency of the attack. Upon palpation and percussion in the lumbar region, there is tenderness and possibly an area of infiltration filling the iliocostal space, and later if suppuration takes place a distinct tumor is present. In perinephritis the urinary findings depend upon the previous affection, but in primary cases, they are often negative.

In differentiating perinephritis from coxalgia or caries of the spine, the following points of differentiation will be quite helpful. In coxalgia, the onset is more insidious and is much more chronic in its course; the deformity produced in a case of perinephritis in the course of two or three weeks often exceeds that produced in a case of coxalgia in the course of quent during the first year of the disease, a year. In coxalgia, suppuration is infrewhile in perinephritis suppuration often develops in a month and permanent recovery usually follows after a few months at most. Upon examination in a case of coxalgia, there is found atrophy of the thigh and joint tenderness and limitation of motion in all the movements of the thigh, whereas in perinephritis joint tenderness is absent and extension of the thigh is the only movement which causes pain, all the other movements at the hip joint being normal, the deformity being due solely to the flexion of the thigh, and sometimes the thigh may be flexed to a right-angle.

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*Read before the Kentucky State Medical Association, Louisville, Wednesday, October 30, 1912.

Psoas abscesses resulting from caries of the spine may present symptoms resembling those seen in perinephritis, but upon examination and investigation, there are found the disturbed sleep with nocturnal cries, rigidity of the spine, the angular prominence and other signs of distress of the lumbar vertebra.

Primary perinephritis occurring in children usually terminates in complete recovery. Gibney has reported a series of 36 cases and all made a complete recovery. The prognosis is most favorable in the cases due to trauma and when the diagnosis is made early. If rupture of the abscess takes place it is much more favorable if it occurs in the lumbar region rather than in the groin, peritoneum or elsewhere.

In the treatment of perinephritis, the patient should be put to bed and kept as quiet as possible throughout the attack. Hot fomentations or an ice-bag should be applied over the affected side, purgation by means of calomel, and urinary antiseptics should be given. If these measures fail to bring about resolution and suppuration becomes inevitable a poultice may be used to hasten the formation of the pus. When the abscess forms, the treatment is distinctly surgical. There should be a free incision, through exploration, and adequate drainage. Of course, the toxemia should be combatter by generous diet, stimulants and tonics.

Helminthiasis in Children.—Careful examination by Murphy of the stools from 102 children from 2 to 12 years of age showed that 6.86 per cent. were infected with intestinal parasites. In one case there was a double infection giving a total of eight infections. Four (3.92 per cent.) of the cases were trichiuris trichuria infections; two (1.96 per cent.) were ascaris lumbricoides infections; one (.98 per cent. was a taenia saginata, and one (.98 per cent.) was a trichimonas intestinalis. Only a small percentage of cases infected with intestinal parasites display any obvious symptom of helminthiasis, but when present, it accompanied the other clinical manifestations. Further, its presence bore no relation to the species of parasite harbored.—Journal A. M. A.

THE PRESENT STATUS OF THE SUBCONJUNCTIVAL INJECTION.*

By C. T. Wolfe, Louisville.

In presenting this paper it is not my purpose to attempt to deal exhaustively with this subject from the standpoint of its chemistry, literature, history, etc., but particularly do I wish to consider it with relation to the effect upon certain conditions in which blindness has been inevitable and present day surgery is anything but satisfactory.

Although my clinical experience with this method of treatment has not been sufficient to draw conclusions, I present the facts here gathered for what they are worth, with the hope that we may arrive at some conclusions by combining the experience of all present this evening.

Those men who have worked along any particular theory referable to the etiology and treatment of many of the grave diseases that attack the eye have often been accused of being unwilling to view the condition from all standpoints, and of evading different phases of the subject pathologically and chemically which combat their theories, but this criticism holds good in all lines of research, and while this treatment apparently is not applicable in all grave diseases it is as yet in its infancy and it is within the province of all of us, by careful observation, to occasionally add a link here and there, thereby helping in the solution of some of the perplexing problems in ocular disorders.

I must confess, that as yet, I have had to take for granted much of the theory and practice of this method of treatment, and it is with due acknowledgement to the teachings of Darrier and Martin H. Fischer that I am enabled to present much of the contents of this paper. However, I trust that by adding the little of personal experience that the extension will give it some individuality.

Darrier and his followers are indeed optomistic as to the present and future results of this method. Indeed one might draw the conclusion from the remarks of some writers that in the subconjunctival injection we have a panacea for all eye diseases. Such is not the case. It should only be adopted when grave complications are feared and when simpler measures will not suffice. Jones says, "That in inflammatory troubles the injections are antiphlogistic; in indolent conditions they increase circulatory activities; in septic troubles they check sepsis, and where sepsis is impending, prevent it." If the subconjunctival injection will do that, after other procedures have failed, it seems to me that it must be looked upon as a great addition to ocular therapeutics, in not only combatting grave conditions after they have become established but in their prevention.

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*Read before the Louisville Eye, Ear, Nose and Throat Society.

Inflammatory processes regardless of their location respond with a greater degree of certainty when attacked locally and Darrier in a very practical manner gives us the reason. He says, "To cause the antiseptic agent to penetrate into the infective focus itself or into its immediate surroundings, so as to irrigate and to render aseptic all the lymphatic territory in which the morbid process is billeted, should be the aim of treatment in every infective disease of a localized character." Further his experience with drugs dropped into the conjunctival sac and injected beneath the conjunctiva have led him to conclude that the most certain means of causing soluble remedies to penetrate the interior of the eye is through the injection.

The indications for these local therapeutic procedures cover diseases in which prompt action is deemed necessary and of the diseases in which our present day treatment has been found wanting and surgical procedures have been resorted to, to prevent an extension of the process, may be mentioned sympathetic ophthalmia. The dire results of this inflammatory process and the apprehension of its symptoms that both patient and physician must constantly live in dread of stand out clearly in all of our minds, and last the duty of removing an eye which may yet possess a certain degree of visual acuity in order to prevent an involvement of its fellow necessarily gains the patient's consent with some degree of reluctancy. And how natural it must be for these unfortunate patients to hesitate in consenting to this bit of surgery for we cannot assure them with any degree of certainty that the unaffected eye will become involved. Now we are assured, if we are to take for granted the results attained by at least eight prominent ophthalmologists, that the removal of an eye because it predisposes to sympathetic ophthalmia in its fellow is not necessary in many instances, through the intervention of the subconjunctival injection. Darrier happily concludes his remarks on this subject by saying; "That had subconjunctival injections done no more than to establish, under certain conditions, the curability of sympathetic ophthalmia they would constitute a precious therapeutic advance."

Another disease with as far reaching consequences as that of sympathetic ophthalmia, is glaucoma. The clinical methods that we pursue in order to treat glaucoma divide themselves into the two groups of a systemic treatment which would combat such conditions as syphilis, arteriosclerosis, old age, primary inflammatory conditions, etc.; which are regarded as being primarily responsible for glaucoma; and a local treatment which in the aggregate is aimed at the mere reduction of tension within the eye. Great stress has been laid upon this local treatment, for we are all aware of the disastrous results that follow the continuance of increased tension for even a short period of time. Von Graefe's iridectomy has indeed been a useful surgical procedure, but statistics rather lead us to conclude that this can hardly be regarded as the ideal treatment and no doubt we have all seen cases that are blind in the operated eye. The operations that have been devised to make leak holes in the anterior structure of the eye are, with few exceptions, but temporary means; and, further, the fact that operative procedures cannot always be carried out, and that the judicious use of myotics in many cases will be disappointing, certainly compells us to look upon this disease with some degree of fear and trepidation in so far as giving our patient relief and maintaining a useful amount of vision is concerned. But Martin H. Fischer having exploded the old theory that increased tension is due to fluid being forced into the eye as the result of an increased lymphatic or blood pressure with a possible interference of the filtration angle, etc.; gives us a new view point for observation. His experiments are interesting and the results convincing, believing as he does that the cause of glaucoma resides in the tissues of the eye itself, and that it becomes glaucomatous because it absorbs an increased amount of water dependent upon the colloids of the eye, and that the increased tension occurs because chemical changes occur within the eye which increase the affinity of the ocular colloids for water so that these are unable to absorb water from any available source. He says: "The eye is built up of a series of different colloids. (Sclera, cornea, lens, vitreous humor) and that the same conditions which govern the absorption of water by fibrin also govern the absorption of water by the eye." Therefore we are led to conclude that the logical way to attack glaucoma is not by devising means for the escape of the excess of water altogether, but if possible to eradicate such processes as exist which are responsible for its absorption. To a certain extent the use of subconjunctival injections of chemically pure sodium citrate have accomplished this end. The following procedure is recommended for the injection of this drug. After rendering the conjunctiva anaesthetic by the instillation of a cocaine and adrenalin solution inject five to fifteen drops of a 4.05 to 5.41 per cent.

solution. The effect of these injections, in reducing tension is unfailing, according to Thomas, and without evil consequences. After each injection there was, in his experience, a relief of the symptoms of glaucoma for from three days to several weeks. Further he states that the injections possess advantages over the recognized surgical and medical procedures in that they are simple and very prompt in producing results. No one who has used this method claims for it a cure of glaucoma, but the effect seems to be as far reaching with quicker results obtained and less danger in the administration than do the results following iridectomes, sclerotomies, or other procedures which merely aim to reduce tension. Personally I used this method of treatment in one case of secondary glaucoma with a prompt decrease in tension lasting two weeks at which time I did an iridectomy and followed five days later with another subconjunctival injection as the patient was experiencing some slight pain. Four months have elapsed with no increase in tension. Therefore from a personal standpoint I am inclined to look upon the subconjunctival injection of citrate of sodium merely as a link in the chain of our present treatment of glaucoma, and not to the exclusion of operative procedures. The use of each or all must depend upon the given case with the ophthalmologist using his own discretion.

Jones of Cumberland, Md., has reported the use of subconjunctival injections of cyanide of mercury in interstitial keratitis with the result that the duration of the disease is shortened and that the sequellae which in some instances so interfere with vision is prevented. He states; "That cases thus treated are relatively free from the fine thread lines permeating the cornea, which are remnants of the newly formed vessels and that some cases of panus crassus, in which the vessels cover everything hardly leave any visible streaks." This experience is surely worthy of our consideration and seems to be a distinct addition to our present treatment of this disease.

In dangerous infections of the cornea, e.g., the serpigenous ulcer and infections following cataract extraction, conditions which I feel safe in saying lead in the vast majority of cases to the loss of the eye respond to a degree of certainty to the cyanid injection. In fact, Woodruff, of Chicago, whom I have had the pleasure of seeing use the injection on several occasions, claims never to have lost an eye infected following a cataract extraction in which he used this line of treatment.

Reports are varying as to the usefulness of the cyanid injection following magnet extractions, but the consensus of opinion seems to be in favor of its use as no harm can be done and if used early is of unquestionable benefit.

All conclude that in traumatisms involving the danger zone the injections should be used, and the reports of many certainly make one hesitate to enucleate an eye because of the danger it may hold to its fellow.

Diseases of the choroid and retina are claimed by some to be benefited by the mercurial injection. Recent exudates especially have been reported as clearing up very rapidly scarcely leaving any evidence of their having been present and in many instances degenerate areas never take place. Little of literature is available along this particular phase of the subject. Personally it seems that the cause of such conditions had best not be neglected in favor of local treatment altogether.

In tuberculous affections of the eye guaiacol is regarded as a specific. Darrier says; "This is so true that one can be almost certain that an episcleritic nodule or an iridic lesion, which has been treated in vain with mercury or salicylate, is really tuberculous if it improves or is cured after two or three injections of guaiacol cacodylate gm. 2 and sterilized water gm. 100."

The subconjunctival injection has been tried and proven to be of great utility in other disorders of the eye, but I trust that sufficient conditions have been enumerated and results tabulated, even though we have had to report the same through the experience of others, to cause us to look upon this method as an indispensible entity.

There seems to be but one contra-indication to the administration of drugs in this manner and that is in acute specific processes. The consensus of opinion seems to be that general treatment had best be instituted in the beginning, for at the initial stage we have a circulatory stasis which renders the absorption of medicaments difficult.

Numerous drugs, other than those that have been mentioned have been used with varying results, such as iodate of sodium in gummatous infiltration of the sclera, salicylate of sodium in episcleritis and iritis, cyanid of mercury combined with sodium chlorid in hypopyon keratitis. Experience seemed to have proven that the mercurial preparations are of most benefit in the infectious conditions and all men of late have practically abandoned the bichloride in favor of the cyanid for the reason that the cyanid is less painful, less toxic, and is compatible with all the alkaloids. Strong salt and brine solutions have their advocates, and there is little doubt that they are useful, but whether they are of benefit in detachment of the retina, as advocated by some is not for me to answer.

The technique employed in the administration of the subconjunctival injection is a very simple one, bearing in mind that asepsis must be respected. Especially devised hypodermic syringes have no advantages over the ordinary ones in common use. Speculum and forceps are not needed as the point of the needle picks up the conjunctiva readily. Preceding the injection the conjunctiva is rendered insensative by cocain solution merely dropped into the sac. The pain that is an important factor and one always to be looked for, especially in the administration of the mercurial solutions, is controlled by adding a few drops of a 1 per cent. solution of acoin to the liquid for injection. The point of selection for the introduction of the needle is as far from the limbus as possible and midway between the two recti muscles. The patient is directed to look downward and inward, the surgeon then by pushing the upper lid backward exposes the upper and outer equatorial portion of the eye ball. The needle is then introduced beneath the conjunctiva, pushed backward until it comes in contact with the brim of the orbit and then turned slightly downward, so that the contents of the syringe will be behind the equator of the eyeball. Swelling, which occasionally is marked, is to be expected, however it subsides within a few days with no ill effects. I do not believe we should permit the fear of a slight exaggeration of pain and oedema to cause us to hesitate in the use of the injection when indicated as we can explain to our patients beforehand that they will experience some inconvenience from this standpoint and we can further assure them that no evil consequences will result.

Patients, as a rule, are treated at the office and permitted to return home at once with instructions to use hot applications constantly. In many instances a second injection is not necessary, but if it is deemed advisable it may be done with impunity depending upon the virulence of the infectious condition, the amount of oedema present and the further necessity of prompt interference.

In conclusion, gentlemen, permit me to offer a word of apology in the selection of a subject in which I have had so little experience, but I do believe that in the future this treatment will command more attention, that larger fields of usefulness will be brought to light and that drugs heretofore not applied in this manner will render the solution of some of the perplexing problems in ocular disorders an easy matter.

SUBPARIETAL RUPTURE OF THE KIDNEY WITH REPORT OF CASES.*

By A. H. Barkley, Lexington.

At a meeting of this society held in Louisville in 1906, the writer reported four cases which up to that time had come under his care, together with ninety-one cases collected from the literature which represented all cases reported in this country since 1890, a period of sixteen years. The writer now desires to make a further report of five more cases treated by him, making a total of nine cases, and also make a few remarks regarding this not often reported but frequent injury.

From an anatomical view point it seems strange that the kidney should be so frequently injured, protected on all sides as it is; but the fact remains, however, that the kidney is more often ruptured than any other organ within the abdominal cavity, the uterus not excepted.

This lesion was not much in evidence before 1878, when one writer was able to collect only seventy-one cases up to that date. Kuster collected three hundred and six kidney injuries from various causes, and found of this two hundred and forty-one were ruptures without any other wound or complication. Keen collected one hundred and fifty-five cases of trauma to the kidneys, out of which one hundred and eighteen were cases of rupture.

Case reports to date would indicate that the lesion occurs with surprising frequency, and why more cases were formerly not reported may be explained by the fact that the wisdom of the masters had not been disseminated generally among the profession, and again, this injury is sometimes associated with injury of other organs which have pronounced symptoms while the damage to the kidney is overlooked.

Of the ninety-five cases collected and reported by the writer, it is interesting to note that, organs such as the spleen, liver, and colon were involved, as five cases of rupture of the spleen occurred, with four deaths; six cases of rupture of the liver, with three deaths; colon was ruptured once, with recovery. The mesenteric vessels were ruptured in one case which proved fatal a few hours after the injury.

By far the most serious complication occurring with rupture of the kidneys are those of the spleen and liver.

Withe reference to the age at which this injury is most prevalent, it was found that fifty-nine cases where the age was given shows a rapid increase from ten to forty years, and a very decided decrease from forty to fifty, and that it seldom occurs after fifty. Between the tenth and fortieth year one is more actively engaged in the pursuits of life, hence more constantly subjected to accidents.

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*Read by invitation before the Ohio Valley Medical Society. Evansville, Ind., November 7-8, 1712.

In this connection, it is interesting to note the frequency in the sexes—in seventy-four cases only five occurred in the female. Recent statistics bar these figures out, as 94 per cent. occur in the male; however, Guterbrook found in a large number of cases that at least 20 per cent occurred in females, which is probably too high. He also found the right kidney to be more frequently damaged than the left. In the cases collected by the writer, sixty-nine specify the side, and are as follows: thirty-six on the right, and thirty-three on the left.

Probably what is of more interest to this society than the preceding, is the pathology, prognosis and treatment.

The pathology in these cases largely determines the treatment. Kidney injuries are rarely quite uncomplicated. Either important parts in relation with the organ participate in the damage, or remote regions of the body suffer with the kidney when the body is exposed to great violence; however, these remarks will apply only to sub-parietal ruptures or rupture of the kidney without external wound as time and space will not permit a discussion of the pathology of the various kinds of injury to which these organs fall heir.

There may be a slight rupture in the cortical portion, it may be ruptured from one pole to the other, or the rent may extend into the pelvis and implicate the ureter or large vessels, or it may involve the peritoneum.

Rupture of the kidney owing to its structural development is usually in a transverse direction, though frequently lacerations may be vertical, oblique, stellate, or irregular; or the organ may be broken into several large pieces, or it may be crushed or pulpified.

Where the rent in the parenchyma is small and the capsule not damaged, the tendency is toward speedy repair; but where the hemorrhage is not confined the tendency to perinephritic extravasation is augmented. When this occurs provided the extravasation is not too great, absorption usually takes place but in exceptional cases may remain for a time as a cyst or become chronic.

When the peritoneum is torn and escape is into the cavity, the tendency is toward continuous bleeding, which in turn is usually followed by death from shock or from peritonitis later. The involvement of the peritoneum in ruptures of the kidney is much more likely to happen in children before the tenth year, from the fact that the peritonitic fat is not developed, and the peritoneum is separated from the front surface of the kidney by the anterior layer of the perinephric fascia. It will be seen from this that in children where the anterior surface of the kidney is involved the cavity is certain to be exposed.

The direct effect upon the kidney where the hemorrhage is large, is as Morgangi has shown, to lessen blood pressure and in turn cause an arrest of renal function of the injured organ which, however, may later become established.

As to the prognosis, it has been said that subparietal rupture of the kidney carries with it a much higher mortality than gun shot wound of the same organ.

With the knowledge of the readiness with which clean kidney wounds heal, it is probable that a large number of lesser injuries of that organ get well without the assistance of the surgeon or that the diagnosis of the lesion was never made. In these simple cases where there has been slight or moderate haematuria and in the absence of extensive extracapsular hemorrhage, the prognosis is very good, recovery usually taking place in from ten to twenty days.

In cases where the symptoms are marked, and where there is unmistakable evidence of grave injury to the kidney, the prognosis even in uncomplicated cases is bad, the mortality amounting to twenty-five or thirty per cent. when treated effectively. In cases where operative interference is delayed it is much higher and when complicated with injury to other organs and treated expectantly, it may run as high, as Watson has shown, as ninety-one per cent.

In considering prognosis, it is practically impossible to eliminate the possibility of serious injury to other organs, such as liver, spleen, blood-vessels, etc., which renders the prognosis bad in the extreme and raises the mortality percentage to an appallingly high figure.

In cases of rupture which involves the pelvis or ureter, provided none of the large vessels are involved, the prognosis as far as life is concerned is less unfavorable than in rupture of other abdominal organs. This is largely due to the blocking of the renal vessels and the capacity of the other kidney for doing compensatory work. This was exemplified in one of the writer's cases.

When the rupture is on the anterior surface of the kidney, the peritoneum is likely to be involved, which, unless the damage is quickly repaired, is more than likely to be followed by a general peritonitis. This is more likely to occur in children than in adults.

Watson found in a series of cases collected by him that had received conservative operative treatment—such as packing, draining or suture—the mortality in simple cases was about 5 1-2 per cent, while in complicated cases the same treatment yielded about 40 per cent mortality.

He also found the mortality where radical operative treatment was instituted, i. e. nephrectomy, in simple cases to be about 23 per cent. while in complicated cases it was over forty per cent.

It will be seen from the foregoing that the prognosis will depend on whether or not the trauma is simple or complicated, and whether conservative or radical treatment is employed.

As to treatment, it may be expectant or operative; if the latter, it will then naturally resolve itself into conservative or radical. I think the statement may be made without fear of contradiction that the concensus of opinion is now in favor of conservative•operative methods such as suture-packing or draining, and the more radical treatment such as nephrectomy must be held in reserve for cases where the damage is so great as to render the organ useless.

The writer has used an expedient in a case of stellate rupture where the parenchyma was quite friable, as follows: the pieces were approximated and the whole organ bound around with cat-gut very much as a package is tied with a cord string. The result in this case was very gratifying and easily and quickly executed.

CASE I.

Mr. T., teamster, fell from his wagon, January 3, 1907, which passed over his left loin; pain, shock, bloody urine. Removed to hospital where it was found the left kidney was split on lower pole nearly through. Three mattress sutures of chromic catgut were placed in the organ, small pack placed in bottom of wound. Recovery complete.

CASE II.

A. D., age 19. Thrown from bicycle February 26, 1907, left side struck curbstone. All cardinal symptoms present. Operated on thirty-six hours later. Stellate fracture, kidney parenchyma very soft and friable and two small fragments not wholly detached which could not be held by suture so the pieces were approximated and whole organ wound around with No. 2 chromic cat-gut, small pack placed in wound. Recovery uneventful.

CASE III.

Mrs. M., on February 20, 1908, was thrown from her sleigh, striking her back against some stones, quite shocked at the time but recovered in a few hours and was taken home where, on the third day, it was found she had damaged her kidney. Exploratory incision exposed the right kidney which was ruptured about one inch longitudinally. Clots removed and wound packed. Everything went well until the eighth day when pneumonia developed which ended fatally in one week. The wound was doing well and had it not been for the pneumonic condition, she would have recovered.

CASE IV.

Mr. E. D., hurt in railroad accident May 10, 1909. Shocked when brought to the hospital; evidences of bruised place over right kidney. Kidney exposed, and found the pelvis had a small rent in it, also ureter was damaged; kidney was considerably contused. Packing and draining used in this case which progressed slowly for two weeks when the urine increased in amount but the wound would not entirely heal. This persisted for two months, when another operation revealed the fact that the kidney was undergoing degeneration, when it was removed. A large clot was found in the renal vein. Recovery followed the last operation.

CASE V.

Mr. S., hurt in playing football on October 20, 1910. All cardinal symptoms of trauma to right kidney were present. Operation showed two small ruptures near the middle and on the posterior portion of kidney. Pack and drainage used. Recovery uneventful.

CONCLUSIONS.

1st. Subparietal rupture of the kidneys occurs much more often than one would suppose from reading the modern text-books on surgery.

2nd. Rupture occurs most frequently in males between the 10th and 40th year, and on the right side.

3rd. That pain, hematuria and shock, while usually present, may not supervene immediately upon receipt of injury, and are in some severe cases entirely absent.

4th. That the urinary symptoms may vary considerably and that normal renal function is not restored for some time after the wound is healed.

5th. In many cases it is impossible to differentiate by clinical symptoms slight from extensive rupture of the kidneys.

6th. The absence of evidence of serious injury should be established before temporizing or the expectant plan of treatment is employed.

7th. In cases of doubt, early exploratory incision is the logical surgical procedure.

8th. That in infected cases lumbar incision and drainage or nephrectomy gives the best results.

9th. That suture of the kidney parenchyma in clean cases gives excellent results.

10th. That cases not complicated with other injury death is usually the result of shock, hemorrhage or sepsis.

EARLY DIAGNOSIS OF ARTERIO-SCLEROSIS.*

By W. C. Ussery, Paris.

Unfortunately, arterio-sclerosis does not always present uniformly early symptoms of sufficient importance to call attention to the condition. As a rule, when the diagnosis is made the symptoms are very clear, and may have been present for years. Of course the early symptoms are always present, but not sufficiently marked to cause the patient to seek medical advice, nor to be always recognized by the medical man should he be consulted.

One early symptom is shortness of breath after ordinary exertion—climbing stairs a little more rapidly than usual; a short, sharp run for a street car; running half way across a street to avoid a vehicle; or any of the many things necessary to be done in the daily life. I will admit the symptoms may be trivial, but when a history of every case of arteriosclerosis is thoroughly gone into a large number will reveal disproportionate shortness of breath after ordinary exertion. I recall the case of a baseball player, 26 years old, who was compelled to retire from the game in his prime because of shortness of breath. At that time, nearly twenty years ago, we didn't hear so much about hardened blood vessels except in the plethoric or aged; we heard even less about blood pressure and sphygmanometers. That baseball player had a hemiplegia at 28 and died in uremic coma at 30. So far as I know his blood pressure was never taken, nor was a nephritis suspected or recognized until after the break of the blood vessel in his brain. I firmly believe that if his blood pressure had been taken when the shortness of breath first developed it would have been above 140.

This brings up the question of blood pressure: When a great life insurance company experiments on blood pressure, regardless of age, for a number of years; keeps records of the deaths in which such observations were made; finds that even young men 21 to 35, apparently in perfect health, but with a pressure of 130 to 136 and accepted as good risks, died before their time of kidney or circulatory disease; that these deaths were in greater proportion than like risks with a pressure of 116 to 125; when these things exist it is time more attention was being paid to increased blood pressure as an early symptom of arterio-sclerosis, or conditions leading to it.

A certain form of arterio-sclerosis—that of the aorta or coronary artery—is perhaps indicated by pain in the breast or at the root of the neck more often than not. Especially in a syphilitic sclerosis as the term is applied, will pain under the sternum be an early symptom; not necessarily a continuous pain; it may be intermittent, sharp or dull; severe or not, as the case may be.

In many cases the early symptoms of an interstitial nephritis will be the early symptoms of an arteriosclerosis, because not many cases of interstitial nephritis exist for very long without producing a stiffening of arterial walls. Headache, more or less regular, not explained by other causes, may be an early symptom of arterio-sclerosis, although advanced cases are remarkably free from headaches; that the head disturbances decrease in later years is probably due to a tolerance of the increased pressure.

Unusual flushing of the face when leaning over, no matter what the age, means something abnormal with the circulation. If blood goes to the face it will go to the brain; take the blood pressure and look after the kidneys; it may mean apoplexy later on, and in a man less than 30.

Increased blood pressure does not always mean arterio-sclerosis, but a constant index of 130 or more probably means the beginning of something that will end with arterio-sclerosis. It seems to me that things have come to such a point that no physical examination, is complete without a blood pressure test; it should come next to the urinary examination in importance. The mere fact that a life insurance company requires the blood pressure in every examination, regardless of age, means that an index of 130 or more is an indication of danger; that such an individual is more apt to develop something leading to arterio-sclerosis than another individual of like history and personality, except a blood pressure of 126 or less. I am not prepared to say that we are not drawing a fine point—possibly splitting a hair, but statistics prove the thing—at least to the satisfaction of the company's medical directors.

Increase of weight and fat in a previously lean individual from a lean ancestry should lead one to look after the heart and blood vessels. Frequently an increased blood pressure will be found, along with indications that the heart is overworked—again the short breath after moderate exertion. Fat individuals from a fat ancestry do not have increased blood pressure without other symptoms; many fat individuals from a lean ancestry do have it.

Syphilis is probably the very earliest symptom of arteriosclerosis; not that every syphilitic ends with hardened arteries, but that many cases of frank arterio-sclerosis have a syphilitic history. I believe that most cases of apoplexy in persons under 35 are due to a luetic hardening of the brain arteries.

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*Read before the Kentucky State Medical Association, Louisville, Thursday, October 31, 1912.

So then, to adhere strictly to the title assigned me. The early diagnosis of arteriosclerosis, the early symptoms of intestinal nephritis and of syphilis must stand out above all others as indications of a process which may eventually produce a hardening of the arteries.

Arterio-sclerosis as a disease in and of itself does not exist. It is a fundamental symptom, if you please, or the fundamental effect of a series of symptoms; but not sufficiently fundamental to be a distinct disease. It is no more a disease than dropsy, biliousness, indigestion, headache, or, for all I know, neurasthenia.

SANITARY PROBLEMS OF THE SCHOOL CHILDREN.*

By W. P. Drake, Bowling Green.

Not so many years ago we thought so little about children that we believed that there was very little to know, we merely classed them as good children or bad children, strong or weak children, bright or stupid children. Little did we think of any other classification to be made. But within the past few years there has been brought about a great change in the care and study of children, and to-day our states are recognizing that a citizen to be useful must be healthy. And acting upon this principle has ultimately come to the realization that preventative health work among children offers a vast field of potential possibilities, not only in the prolongation of life with a decreased death rate, but in greater efficiency of those who live with correspondingly decreased poverty, delinquency or dependency.

Modern sanitary science seeks to counteract those conditions which further the development of the so-called preventable diseases. As life, measured by the years of its normal duration, approaches and passes its meridian the preventable diseases decrease in the frequency of their occurrence.

Approximately one-fifth of all deaths at all ages occur during the first five years of life. At least one-half of these are preventable. The deaths from infectious diseases are mainly encountered between five and fifteen years of age, while tuberculosis, which causes more deaths than any other single disease, is mainly dependent upon a lack of natural or required resistance, and it is probable that this latent tendency has its inception during the period of childhood.

The effort to eliminate tuberculosis will be successful only in proportion to the recognition of this knowledge, for public health work among children offers a solution of the tuberculosis problem, in the only way it will ever be solved, and that is by primary preventative measures.

Pedeology applies to children in exactly the same way as minerology does to ores, as botany does to plant life, and I believe that the out-look for the educators, and what is more important, the children themselves, is indeed a serious one, unless child science can speedily come to their rescue.

Heretofore we were wont to regard children as merely undeveloped men or women. There were perhaps few physiologists who knew that children had a status of their own, and that it was entirely different from that of adults. But for the past few years there has been brought about an extraordinary revival of interest in children as is evident by the creation of a number of societies devoted to the study of boys and girls. There has been brought forth a number of scientific journals and many academic chairs in universities, resulting from this new interest, and the sense of their increased value to society.

As some one has so cleverly expressed it, the children have been taken out of the realm of poetry into a field of scientifically organized care and protection.

The children of to-day it must be remembered, are the men and women of to-morrow, and therefore it is worth while that more than a passing note should be taken of this large army about us.

The child is here through no fault of its own, his health, vigor, power of resistance, happiness and usefulness as a citizen are determined in no small degree by the nature of his care during the first fifteen years of life, and he has a right to demand that such care be given him as will be conducive to a sound, well-developed body and mind, and this should be our first thought and object regarding him.

Consider for a moment the number of occupations that require physical and mental fitness before they may be accepted. Competition is keen at the present time and will be keener in the future. No matter where we seek employment our physical and mental fitness is very seriously considered.

We are all aware that a great deal of physical and mental deficiency is caused by poverty, by over-crowded homes, poor food, bad air, lack of playgrounds, and it is apparent to all if we expect anything in the way of race improvement or to keep the child out of mischief, and away from the juvenile court we must provide them with the proper environments. Sick or well, bright or stupid, genius or imbecile, every child ought to be brought to the attention of the public school and parents.

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*Read before the Warren County Medical Society.

A question which has never been decided, and which probably never will be, is the actual money value of human life. Court decisions, which might be taken as a standard, show a fluctuation so wide that no standard can be deduced. It has, however, been stated many times without dispute that the money value of the life of an infant one year of age is one hundred dollars. With this as a basis it may be seen that should Warren County have thirty infant deaths in one year it would mean a money loss of three thousand dollars.

Personally, I believe that each county should have a health officer that does not practice medicine at all, and devotes his entire time to the conservation of life in his county. While it is not possible to estimate the exact number of lives saved by such an organiza- that the actual cost of saving the baby's life is considerably lower than the loss involved in allowing it to die.

With such a medical supervisor he should have control of the preservation of the health of the school children. He should make physical examinations of each child as soon as it enters school, and at such intervals as he may deem it necessary, reporting to the parents the character of defects found and the necessity for treatment.

There should be an exclusion of all children who suffer from colds, as well as those who suffer from contagious diseases.

There should be short school hours, frequent recesses, open or well ventilated and cool school rooms, ample play grounds, and individual study of the backward and feebleminded child and each child's emotional nature should be cultivated as well as their brains. Many a child has fallen down in their work because of insufficient food to support them in their work.

The parents permit them to stay out late at night, go to parties and dances and then in the morning they are allowed to go to school without sufficient food. A child of fourteen goes to school after simply swallowing a small portion of oatmeal, or something of that sort, and then in the middle of the day goes to some near-by store, gets something sweet, and thereby gets very little proper food.

I think the parents should be taught the necessity of proper food, and not allow their children to go off to school without a good breakfast. Parents often forget that exuberance of spirits and thoughtlessness belong to childhood. Persistent child nagging becomes a habit with many parents and teachers, and irritable mothers usually have irritable children. Work involving strain, whether physical or mental, should form no part of the child's life. Our school system using the forcing process, the competitions, the giving of rewards of merit are all of them pernicious practices. A child cannot do hard mental work, such as required of many children from the tenth to the fifteenth year and be expected at the same time to develop to the best advantage physically.

We often see the pale, slender school girl struggling home with a load of books, from ten to eleven studies, with music lessons combined, and when the question is asked the child or parents as to why all this work and worry and close confinement, the reply almost invariably is, that all the girls at her age do the same and she does not want to be behind.

The other picture is the little mother, a pale, tired child from seven to twelve years of age, who minds the baby and other younger members of the household, while their mother is away from home or at work.

It is needless to say that neither type of child makes the ideal woman or mother in any station of life.

Poor food, little sleep, long hours of confinement, confusion, excitement day and night, favor the development among the young of "St. Vitus Dance."

Parents, as a rule, are ignorant as to child management, but they are anxious and willing to do the best things possible for their children and will carry out suggestions if we take the trouble to enlighten them as to their errors, and it is the duty of physicians having children under their care to explain to parents their responsibility as regards physical defects and welfare of their children.

Teach them that adenoids and enlarged tonsils are a mechanical obstruction to breathing and interferes with physical and mental development and that all such defects as deafness, eye trouble, inability to walk or talk at the proper age, or any backwardness of the child, is due, in all probability, to some defect that should be investigated and removed.

Slightly deaf children whose condition is not recognized are often accused and punished, when they are slow to respond when spoken to. And such children make slow progress in school and are considered stupid.

Many such children show defective hearing of a pronounced type, due usually to adenoids and enlarged tonsils.

Mothers should be instructed in hygiene, food and clothing, and remove from them the notion the child must have measles, whooping cough, and hookworm diseases by showing them that these diseases are ideal foundations on which to build future woe in the shape of consumption.

Explain to them the best way to fight consumption or any other disease is with a sound body, and that when children grow up to be men and women of affairs they must have sound lungs, stomach, eyes, ears, teeth and good muscular development.

Mother must be taught the necessity of having their children's defects and general disorders detected in time to be cured. As an example, cross-eyes detected early can be cured. Ear trouble detected early can be cured, and diseased tonsils removed early prevent rheumatism and poor health. Hundreds of our friends are to-day going through life cross-eyed or blind, near or farsighted, or deaf, or dwarfed mentally or physically from hookworm disease and other conditions as results of not receiving attention at the proper time.

We have found that children suffering from defective vision, defective hearing, or defective breathing are great sufferers of mental and physical fatigue, which is relieved as soon as their defective vision, hearing or breathing is corrected.

There are hundreds of such cases, and what a pity that these little people should suffer so needlessly. So often we see the poorly nourished boy or girl, sallow, anaemic, with narrow contracted chest, enlarged glands and the mother says the child catches cold easily and breathes through the mouth and suffers more or less with ear-ache, and has discharge from the ears and is very deaf.

Then imagine how many little sufferers around us that by timely and appropriate treatment they may be made new and happy children.

I am sure there could be no more important or fruitful field of application than to present such matters to our educational institutions and parents, when we consider that the vast army of students is composed of those to whom the destiny of the nation is to be speedily committed, it is obviously important, not only that their mental and moral training should be wisely conducted, but that great care should be exercised to avoid physical degeneracy during the years of school life, which are also the years of pathological growth.

For the advancement of so important an issue, let us place the far reaching and lasting good of this work before our law makers, and insist that they at least appropriate as much for the protection of their wives and little ones as for their swine, cattle and poultry.

SOMETHING ABOUT THE MAXILLARY ANTRUM.*

By Adolph O. Pfingst, Louisville.

As we frequently encounter cases of abscess of the antrum of Highmore at this time of the year a discussion of the symptoms, the diagnosis and treatment of these cases might be of interest. Touching briefly on the etiology I might mention that the belief prevails to-day that the great majority of cases of antral infection occur primarily or through the nose and that only a small per cent. of them are caused by diseased teeth.

Abscess of the antrum may occur as an acute disease or it may assume a chronic form. The two have most symptoms in common so that I will consider them as one and then point out such symptoms which are common to the acute cases only.

For the sake of study we can divide the symptoms of antrum diseases into those which would lead to a probable diasnosis and those which would lead to a positive diagnosis. Of the former we recognize some important local symptoms and some remote symptoms.

The most significant local symptom is the discharge of pus from the nose of the affected side. The nature of the discharge varies, but nearly always takes on a purulent character. The amount of pus also varies although it is nearly more abundant in the acute cases than in the chronic. The patient complains of having a severe cold and a constant desire to blow the nose. Sometimes the pus drops backward into the naso-pharynx, or it may dry in the nose forming scabs, especially under the middle turbinate bone. Frequently the removal of these crusts or the pus is soon followed by the discharge of pus from under the middle turbinate near the position of the nasal opening of the antrum. In the absence of pus at the examination we can frequently cause it to flow into the middle meatus by placing the patient on his stomach and holding the head lower than the body and turned so as to have the affected side upward. Failing by this means we now have at our disposal the suction apparatus of Brawley. This is easy of application and frequently leads to the discharge of pus and the diagnosis of the diseased sinus.

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*Read before the Muldraugh Hill Medical Society.

Hypertrophy of the turbinate bones or deformity of the nasal septum may so obstruct the nasal passage as to make it impossible to determine from which of the accessory nasal sinuses the pus is coming. Again, the pus in the antrum may not reach the level of the maxillary opening, in which case the meatus would contain no pus.

Closure of the nasal passage of the affected side is a common symptom of antrum disease, the individual having difficulty in breathing and in blowing the nose. This is most frequently due to hypertrophy of the mucous membrane over the turbinate bones. It may also be due to the presence of polyps occurring around the antral opening or springing from the ethmoid cells merely as a coincident condition. These polyps are mucoid growths or more strictly speaking adaefotous hypertrophy of the mucous membrane.

Another subjective symptom of importance is the frequent perception of an odor by the patient (Kokosmia). Strangely this odor is a subjective one entirely and is believed to be due to odorous gases formed in the antrum. It is not detected by the patient's associates. The sense of smell is more or less impaired.

Pain is infrequent in the chronic cases at least it is not constant but assumes more of an intermittent character. However, it is present in nearly every acute case, the patient complaining of a feeling of tension and of a dull pain over the region of the maxillary sinus, exaggerated by pressure and often accompanied by periodic neuralgic pains referable to the face or upper set of teeth. The teeth at times are sensitive to pressure and may give the sensation of being too long in closing the jaw. The acute cases are sometimes ushered in with a chill, followed by fever. They nearly always cause pain in the region of the antrum radiating to other portions of the head. The teeth over the region of the antrum frequently ache and are tender to pressure, and, as the patients express it, seem longer than the other teeth.

An adjuvant was added to the methods of diagnosis of antrum disease some years ago by Heyring in the transillumination. With the patient in a dark chamber, holding a small electric light in the mouth, a difference in the appearance of the two sides is often noted showing a dullness of the affected side, especially at the lower margin of the orbit. The method was at first hailed as a certain means of diagnosis, but experience has taught us that it is not always to be relied upon. Even though one antrum contains pus, both sides may appear equally illuminated, or at least very nearly so. Furthermore, it has been noted that with the antrum of both sides normal, one side may appear considerably darker than the other on account of asymmetrical conditions of the bone. Only where the difference in the illumination of the two sides is pronounced can much reliance be put in this method of diagnosis.

In late years skiagraphy has been introduced as a diagnostic measure in disease of the nasal accessory sinuses. While it is true that in abscess of the antrum of Highmore, the difference in the two sides is marked, the plate showing an ill-defined boundary of the affected sinus instead of the well-defined boundary of the healthy one, still we do not employ it as frequently as in the diagnosis of abscess of the frontal sinus or ethmoid cells where the diagnosis by other means is more difficult.

The only certain way of determining the presence of pus in the antrum is to irrigate the cavity. While this has been done through the normal antral opening the method is difficult and often not possible. A much easier way of irrigating this cavity is to introduce the irrigating fluid into the antrum by means of a curved trochar and canula passed by way of inferior meatus through the wall of the antrum into the cavity. Soluticns irrigated through the canula will flow into the nose with the head tilted forward and out anterially in which case the presence of pus is easily determined. With a free nasal passage with the inferior meatus thoroughly cocainized the instrument is not difficult of introduction. However, marked deviations of the septum towards the affected side, or the presence of large inferior turbinates may prevent the introduction. While this method positively demonstrates the presence of pus in the antrum it does not exclude the possibility of pus being present alone in some of the other nasal sinuses.

In considering the treatment of abscess of the antrum, I will give the acute cases but a passing mention. Most cases, coming as they do as a complication of influenza or acute nasal inflammation, yield to nasal treatment consisting in a reduction of membranous swelling with adrenalin solutions, frequent cleansings with antiseptic sprays or the application of argyrol in solution to the nasal passages. Failing by these simple means, irrigation of the antrum will almost certainly relieve the symptoms. In the chronic cases, the primary object should be removal of the cause and then the establishment of free drainage. The first indication can be fulfilled most readily in those cases attributable to dental causes where extraction of the offending carious tooth, or the opening of a periosteal abscess or removal of necrotic bone followed by antral irrigation often effects a cure. There was a time not so long since when failure to cure by this simple method, gold tubes were introduced through the alveolar cavities and anchored to neighboring teeth for permanent drainage. However, to-day, owing to advances made in surgical treatment of the nasal accessory sinuses, we are usually able to bring about a radical cure.

Those cases of antral abscess of nasal origin not yielding to simple nasal cleansing can frequently be cured by puncturing the naso-antral wall of the antrum, and irrigating the cavity daily, the irrigating fluid flowing out through the normal nasal opening under the middle turbinate bone. Failure to effect a cure by antral irrigation through the alveolar process or by the nasal route, we have two radical operations to choose from, the nasal method and the operation through the canine fossa, or a combination of the two.

I wish especially to speak of the intranasal method, believing that in those cases in which the antrum is free of granulations and polypoid formation it has decided advantages over the operation through the canine fossa. The operation, in brief, is as follows: After cocainizing the inferior turbinate bone and the anterior 1 1-2 inches of the inferior meatus of the nose, the anterior 1-3 or 1-2 of the inferior turbinate bone is resected (we find some cases with atropic bone and large nasal space where the bone can be left intact). An opening is then made in the naso-antral wall with a large trochar—a chisel or drill (I employ for the purpose a drill and dental engine.) Using the hole as a starting point, a large portion of the media wall of the antrum can be removed with punch forceps. This leaves a large, permanent opening for drainage, so that every effort of blowing the nose the cavity is cleared of its contents, and in cases with alveolar fistula allows this to close. In addition to allowing free drainage, this operation has the advantage of simplicity as compared with the other operation, being carried out painlessly under a local anesthetic. It leaves no visible wound, requires little or no after-treatment, and does not expose the cavity to reinfection from the mouth or to the aspiration of food or the buccal secretion into the cavity.

A certain number of cases of chronic empyema of the antrum in which polypoid tissue is known or suspected to exist in the cavity will have to be operated upon through the canine fossa to allow more thorough inspection and curettage. The operation was introduced by Lamorics, but was perfected by Kuster. Preferably, under a general anesthetic, an incision is made one-fourth above and parallel with the margin of the gums from the canine to the first molar tooth. The soft parts are lifted and retracted and the antrum entered through the canine fossa with a chisel or drill, a large section of bone is removed with rongeur forceps and the cavity curetted. The cavity is packed with gauze every day until it granulates, when the wound is allowed to close. In severe cases this operation, combined with intranasal opening (Caldwell-Luc) becomes necessary to insure a cure.

FIVE CASES OF INTRA-CAPSULAR FRACTURE OF FEMUR.*

By J. L. Atchison, Campbellsville.

This report embraces a series of five cases of hip joint fracture in as many old women whose ages ranged from 67 to 84 years.

About the only unusual feature of these cases is that they all occurred, during the present year, in my practice in the small town of Campbellsville.

In the treatment of these cases of hip joint fracture no one plan can be followed in all cases, but the age and physical condition of the patient must be considered. The amount of deformity resulting from the injury must, to some extent, determine the exact plan of treatment, also the surroundings of the patient, and the opportunity of the surgeon for securing and applying the required materials.

The location of the lesion is such that it is very difficult, and frequently impossible, to bring the fragments into accurate apposition; or, if they can be so placed, to hold them in such position.

This injury may occur at any age, but is very infrequent except in the aged, and most often in those who are somewhat infirm, so in the treatment we must look to the conservation of the vital forces, as well as to make our best efforts to secure a useful limb.

We should keep in mind the following points in treatment: immobilize the limb as perfectly as possible, and in the best possible position; make the patient as comfortable as we can, prevent bed sores, and get the patient up in a rolling chair soon as the condition of the limb will permit.

It would not be profitable to discuss all the methods, and modifications of methods, for the treatment of this injury. It is sufficient to say that there are four plans of treatment that have, more or less, the sanction of approval. First, the old time method of sand bags, or long splint, with or without traction. Second, the Thomas hip splint. Third, forced abduction and fixation with plaster of Paris. Fourth, pegging. Considering these methods in the reverse order I would say that pegging is not in common use, and not likely to be resorted to by the country physician. Forcible abduction and plaster of Paris immobilization is well suited to young subjects, and, when properly done, ought to give nearest the ideal results. Very few physicians have at hand the necessary material, or the mechanical skill, to make a well-fitting and comfortable Thomas hip splint. In old subjects, at least, the plan of sandbags, long splints, and extension—some one or a combination of these seems to me the most rational treatment for general use.

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*Read before the Muldraugh Hill Medical Society.

CASE I.

Mrs. R., age 78. Quite infirm from a chronic bronchitis of several years standing. On January 30, 1912 was coming down a stairway; when on the lowest step thought she was on the floor, and stepped forward falling to the floor, and sustained a fracture of the right femur. The indications were that the fracture was intra-capsular. Treatment: Sandbag extending from axilla to below the foot on outer side, and short sand-bag on the inner side of leg. Begun to prop patient up in bed after a few days. Close attention to back and buttocks, applying alcohol and oxide of zinc, and placed her on a rubber invalid ring, which prevented bed sores. Had patient up in a rolling chair in about eight weeks. Was very feeble for a long time but is now bright and cheerful. Foot in nearly normal position and she can walk with some support.

CASE II.

Mrs. C., 84 years old. Had good health till the last five years, during which time she had had frequent attacks of vertigo and dizziness, with loss of appetite and some loss of mental co-ordination. She is of large physique and placid temperament.

On April 29, 1912, while leaving a neighbor's house, found the doorstep was rather high and jumped to the ground. Fractured the left hip joint, probably intra-capsular. I think this fracture was caused by her weight being thrown on left leg in the jump, and not from the fall. Treatment same as in case one, but she proved to be a very refractory patient, and persisted in moving herself about in bed, and would not lie on the invalid ring. I was compelled to compromise with this patient by allowing her a good deal of freedom, and doing what I could by keeping the limb in position with sand bags. Bed sores were prevented by using alcohol and oxide of zinc. Injured limb became considerably swollen, which was controlled to some extent by bandaging, but some swelling persists to the present time. Did not get her into a rolling chair till three months after the injury but she now enjoys it very much. The left foot is considerably everted but she can stand on her feet and can walk some by being supported. She is now cheerful and happy, but will probably never walk without support.

CASE III.

Mrs. G., 67 years old. On September 19, 1912, while walking along an outlying street after dark, a buggy came up behind and she sidestepped into a shallow ditch, stepping on a small stone; the stone turned causing her to fall. It was probably the turning of her foot on the stone that caused the break, which was of the right hip. This case was treated with sand bags and extension, with proper care of back to prevent bed sores. This was a cheerful and patient old lady and her progress toward recovery was uneventful. Had her sitting up in eight weeks and she will, I think, be able to walk well.

CASE IV.

Mrs. S., 75 years old. On September 24, 1912, while walking along a smooth brick pavement, turned to speak to a friend. Her left foot turned describing about a half circle and she fell to the ground with fracture of neck of femur of that leg. Treatment was with sand bags and extension. Recovery to the present without incident. Patient sitting up in a chair and will probabiy be able to walk fairly well.

CASE V.

Mrs. E. S., 68 years old. On November 20, 1912, while coming down a stairway, foot slipped on the second step from the bottom. She fell and sustained a fracture of the right hip joint, which was probably done by the wrenching of the leg when foot slipped. This patient is now under treatment with sand bags and extension, and is doing well.

One point of interest in all these cases is that they did not have bed sores.

Diagnosis of Enlarged Bronchial Lymph-Nodes.—A maderate enlargement of the bronchial nodes, Stoll found, often gives physical signs of sufficient distinctness to render their diagnosis possible by clinical methods alone. The signs are usually most marked in the interscapular space. Tapping percussion will elicit bronchial node dullness that is imperceptible when more force is used. Whispered bronchophony in the interscapular space is the earliest and most valuable sign of swollen bronchial nodes. It is especially significant in children and has almost, if not quite, the same importance in adults. While the spasmodic, brassy cough is quite typical of bronchial node tumor, the diagnosis must sometimes be made in the absence of the cough.

TWO CASES OF TYPHOID INFECTION OF APPENDIX.*

By S. H. Ridgway, Shepherdsville.

CASE I.

Viola G., age 12, family history negative, had never been a strong, robust child, but never had any serious injury.

September 1st, she complained of a pain over the abdomen after a few days of malaise: I was called September 2nd, found her with a temperature of 101, pulse 120, there was tenderness over the entire abdomen but more extreme tenderness over the appendix, so much that she could not straighten her right limb out, this condition continued until the 5th with a very slight variation in temperature and pulse; from the 5th to the 9th her temperature was normal, with a subsidence of all of the symptoms, on the night of the 9th she began to have severe pain in abdomen with extreme distension, her temperature was 102, pulse 130, the temperature continued to have an evening exacerbation of 102, morning temperature 100, until September 21st, when it began to subside, reaching normal about the 28th. During the attack the distension became so great that she developed a hernia two inches above the umbilicus about the size of an egg, as the temperature began to drop the distension lessened and when the abdomen had become normal, I could outline a mass in the right side over the appendix as large as my fist; she continued to do well until October 6th; refused to eat and died from exhaustion on October 10th.

CASE II.

W. D. L., male, age 25, never had any sickness since a child. September 8th he visited a relative in a neighboring village, and as usual he ate more than he should have; that night he began to vomit and suffer with pain in the abdomen, I saw him on the 9th and found him with a temperature of 101, pulse 90, full and strong; tenderness over the abdomen, more intense over the appendix, he had an excessive sick stomach; 11th I found him somewhat improved except the tenderness over the appendix and that not so severe, he continued to improve in every respect, but the tenderness remained in the region of the appendix, on the 20th, I was called to see him, found him very sick, vomiting every few minutes, pain greatly increased suffered intensely with the pain in the groin and extending down the thigh. The right rectus muscle was very rigid, no distension of the abdomen, his condition then had the appearance of an attack of typhoid fever, consequently secured a specimen of blood, it showed reaction to typhoid fever, that night he had a chill with a profuse sweat afterwards; on the 21st I found him with all symptoms increased, pulse had dropped from a strong, full pulse to a low tension, weak, rapid one, the pain was almost unbearable. I then insisted upon an operation. On the 22nd I took him to the city, that afternoon at 1:30 he was operated on. Upon opening the abdomen the surgeon found about a tablespoonful of pus and on manipulating the parts, the end of the appendix ruptured with the escape of an enterlith, the caecum looked somewhat congested. The patient rallied fairly well from the shock of the operation but continued to have a temperature ranging from 99 to 101, this continued until death, which took place the morning of the 26th.

In searching through the literature I am unable to find anything in regard to primary infection of the appendix by the typhoid germ. Dr. Herbert Swift Carter, of New York City, reports five cases complication of typhoid fever, three of which occurred as the initial symptom of the typhoid, two of them being operated on, after which they proceeded regularly with their typhoid.

In the other two, one developed acute symptoms on the thirtieth day and the other on the forty-first day of their typhoid.

These cases seem to me to be cases of primary and secondary infection of the appendix by the typhoid germ.

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*Read before the Muldraugh Hill Medical Society.

MALIGNANT TUMORS, RECENT ADVANCES AS TO INDICATIONS FOR TREATMENT.*

By Newton Evans, Murray.

In the mortality statistics for the registration area of the United States in 1909, cancer, including all malignant tumors, occupies seventh place in order of importance causing 5.1 per cent of all deaths. The diseases responsible for more deaths than cancer are: 1. Tuberculosis (11.2%); 2. Heart disease; 3. Diarrhea and enteritis; 4. Pneumonia; 5. Nephritis; 6. Accidents. The great importance of this class of diseases and the obscurity and mystery which becloud an understanding of its causes have led to much investigation and experimental work along several different avenues of approach to aid in a knowledge of its causes and treatment.

The writer makes no pretense of originality in the points presented but has abstracted some of the excellent papers which have recently appeared, for the purpose of presenting the more important recent conclusions as to indications for treatment of the different varieties of tumors and of tumors in different anatomical regions. Dr. Bloodgood, of Baltimore, has done a most valuable work in correlating the pathological findings with the clinical history of a very large series of tumor cases and drawing therefrom conclusions, as to the best surgical procedures in the different varieties of tumors. The point upon which he lays greatest emphasis is the fact that the prognosis and treatment indicated in the same pathological variety of tumors occurring in different anatomical regions varies greatly. For instance an epithelioma upon the eyelid is an entirely different proposition from an epithelioma upon the lower lip in point of outcome and of treatment.

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*Read before the Southwestern Kentucky Medical Association.

I am convinced that many of us have been entirely too crude in our notion as to malignant tumors, and a review of recent advances has opened to my mind a great field for study and discrimination. Up to the recent past or even the present time the treatment of all malignant tumors has been too much a routine affair, the surgeon rarely taking into consideration the real nature of the tumor or the various indications for treatment as determined by the location of the tumor.

Of course, in the present state of cancer therapy, we are forced to take it for granted that the curative treatment of malignant tumor is essentially surgical.

It will be well to consider the malignant tumors as they occur in the different regions and organs of the body. Directing our attention first to the skin and immediately adjacent mucous membranes, we find that both great divisions of the malignant tumors, carcinomata and sarcomata are frequent. The relative frequency may be judged from Bloodgood's figures:

Sarcoma, 45.
Malignant pigmented moles, 65.
Carcinoma, 812.

Both surgeons and dermatologists have come to recognize that there are two fairly distinct and radically different classes of epithelioma of the skin, (skin cancers). It has long been recognized that many cases of epithelioma show a much less malignant nature than others and that certain regions of the body surface are more prone than others to have the more malignant skin cancers than others. But in 1903, Krompecher definitely advanced the idea that the two types of epithelioma are distinctly different in microscopic structures as well as in gross appearance and clinical history. He divides the epitheliomas into two classes. Practically all surgeons as well as dermatologists have come to recognize the great importance of Krompecher's classification and are in practical accord with his conclusions.

"The epitheliomas of the skin are divided into two groups clearly distinguished both clinically and histologically, as follows: 1. Prickle-cell carcinoma, or carcinoma spinocellurale, or squamous cell carcinoma, which arise mostly from the transitional portions between the skin and the mucous membrane, grow rapidly by infiltration, from early metastatic growths through the lymphatic channels, often recur frequently, and histologically are composed of prickle cells, which often become horny and form horny pearls, cancroid pearls."

Fordyce adds to this that in this type new growths of tissue predominates, instead of rapidly advancing ulceration such as is seen in the second type.

"2. Basal-cell carcinoma, carcinoma basocellulare, which arise from certain portions of the skin (not between the skin and mucous membrane) especially on the face, cheeks, forehead and nose, chiefly of elderly people, and develop from small nodules which ulcerate, and grow very gradually for years or even decades, and then suddenly grow rapidly. They almost never produce metastatic growths and rarely recur. Histologically they are characterized by the fact that the proliferated basal cells always retain their embryonic character, and hence the epithelioma consists of small oval or spindle shaped cells with strongly staining nuclei, rich in chromatin which do not become horny."

A few skin cancers may show both of these types of tissue in the same tumor or may be a transition between the two but by far the great majority are frankly of one type or the other.

Bloodgood has carefully classified about 500 cases of skin cancer with reference to the variety of these epithelial growths which usually occur upon various regions. The following table shows plainly his results.

1. In the first class we will put together those regions upon which the squamous cell epithelioma, or more malignant variety of skin cancer is almost invariable.

	SQUAMOUS CELL.	BASAL CELL.
1. Lower lip	102	4
2. Mucous membrane of mouth, gums, and hard palate	25	2
2. Lower extremity.......	16	1
4. Upper extremity	16	4
5. Penis	13	4
6. Tongue	37	7

2. Those regions having almost invariably

cancers of the less malignant variety, baso-cellulare:

1. Eyelid	2	16
2. Skin of neck	1	5

3. Those regions in which the two varieties are more evenly divided, but the less malignant type predominating: 1. Upper lip; 2. Face; 3. Chin; 4. Ear; 5. Nose; 6. Scalp; 7. Forehead; 8. Skin of body.

Thus we see from his figures that in a given case of cancer, if it occurs upon the lower lip, mucous membrane of mouth, upper or lower extremities, penis or tongue the chances all point to the more malignant tumor, while in all other regions the probabilities are that the cancer is of the less malignant type. In accordance with these figures the opinion of all surgeons is that in every case of epithelioma of the lower lip the most radical operation is indicated in every case, and at the earliest possible time, the operation to include a wide excision of the tumor and a complete dissection and removal enbloc of the adjacent lymph nodes. Of course this same procedure is indicated as is generally recognized in epithelioma of the penis. This rule does not mean that the adjacent lymph glands are to be removed only when enlarged but in every case, no matter how early the stage of the disease.

In the basal cell type this early and wide excision and removal of lymph nodes is not indicated or necessary. Treatment by X-ray or caustics is almost invariably successful and even though the first attempt does not prove successful on account of incompleteness, a second operation can be done, and the chances for final recovery have not been prejudiced by the first incomplete operation. Understand I am now speaking of the less malignant variety of skin cancer only. But one cannot rely entirely upon the location of his tumor in making the diagnosis as to the variety. But here the other clinical symptoms must be considered. We should recall that the basal cell type of tumor, (and the most notable example of this tumor type is the so-called rodent ulcer), usually occurs in patients of advanced age, has a marked tendency to ulcerate, and usually is of very slow growth. If from a consideration of these points already mentioned one is still in doubt as to the type of tumor present, we then can have recourse to the microscopic examination of the tumor to aid him. And in this connection I wish to call attention to the strongly emphasized instruction of Bloodgood that it is much more dangerous to remove a fragment from any malignant tumor and wait several days for a pathological report expecting later to operate for removal of the tumor in the light of the microscopic information, than to remove the fragment and have it immediately examined by the freezing method of sectioning and thus complete the operation at one sitting; and even where this plan is followed, it is necessary to remove the fragment by the actual cautery, or to sterilize the wound made in its removal by phenol or Paquelin cautery.

Pusey, of Chicago, is a very ardent supporter of the X-ray for the cure of many skin cancers. But he very plainly lays down the rule that this is only applicable to those epitheliomas which do not occur upon the mucocutaneous junctions, that is at those places where the squamous cell variety almost invariably occur.

Personally I am free to confess that in the past I have had absolutely inadequate ideas of this definite distinction between the two histological varieties of epitheliomas and the significance of the location of these tumors as to the indications for treatment, and I fear that many of the surgeons have had somewhat similar indefinite ideas. To say that a skin tumor is an epithelioma is not sufficient. There are epitheliomas and epitheliomas and to treat them scientifically in the light of present knowledge, one hust keep the foregoing considerations in mind.

The second class of malignant skin tumors which requires careful consideration is the malignant pigmented moles. There is still much lack of unanimity among pathologists as to whether they are epithelial in nature or sarcomatous. The fact that they may produce secondary growths in adjacent lymph nodes points to their epithelial origin. Their extreme degree of malignancy and their tendency to rapid diffusion through the body are well known.

In Bloodgood's 65 cases of malignant pigmented moles, he says there is not a single history of cure, even by the most extensive operation. It is very evident then that the most important element in the treatment of these tumors is prophylactic, in other words to remove all pigmented moles which are capable of becoming malignant in nature at a time when they have not yet begun to show any malignant character. This at first thought might seem impracticable because practically all persons have one or more and often many small pigmented moles scattered over the skin in various regions. Bloodgood holds that there is a very essential difference between the small pigmented patches so frequently present and those moles which are capable of becoming malignant. This latter type is different in shape, always being elevated above the skin prominently, either with a broad base or often pedunculated. All such papillomatous growths then should be removed before becoming malignant in nature. Of course it is much better not to remove such tumors or any skin tumors, at all than to do it incompletely, as any remaining fragments are much more liable to show malignant tendencies.

SARCOMA OF SKIN AND ALLIED FORMS.

It can be said with truth that practically very few sarcomatous growths of the skin are primary or originate denovo, but are preceded by other lesions such as congenital naevi, fibrous tumors and scar tissue. Of these three types of origin, those coming from the congenital naevi are much the most malignant in character and those developing in scar tissue are the least malignant. A recognition of this fact is of much importance in making a prognosis in these cases of skin sarcomas.

Here, as in the epithelial malignant tumors of the skin, the degree of malignancy closely correspond to definite microscopic variations of tissue structure. The sarcoma of small malignancy are all fibro-sarcomas with spindle shaped çells. The more malignant types, and those which are rarely cured by operation are the round cell sarcomas and the pure spindle cell sarcomas. This same difference is seen not only in the various sarcomas of the skin but in sarcomas occurring in any region of the body.

At this point it will be well to correlate our knowledge of the nature of epitheliomas occurring upon the skin especially of the extremities and of sarcomas occurring in similar localities. In order to understand these two types of tumor and treat them intelligently we must bear in mind their absolute difference in the nature of the tendency to produce metastasis or secondary growths. Much of the surgery of the extremities for these tumors, based upon old methods, has been useless or insufficient and in fact in a manner the reverse of what reason should dictate. If the old time surgeon had a sarcoma of the foot, he would amputate high up, possibly in the thigh. On the other hand if he had an epithelioma of the hand he would excise the tumor with as little mutilation of the limb as possible. If we would consider the nature and the spread of these two tumors we might with better reason just reverse the surgical procedures for the two cases. The sarcoma does not spread locally to any distance in the immediate adjacent tissues, but early enters the blood stream and the secondary growths are first seen in distant organs, particularly of the lungs. If then an operation is to cure the disease, it must be early enough to prevent this spread by the blood and in that case, no extensive local operation is needed, but only one of sufficient extent to completely remove the tumor. On the other hand the epitheliomas do not spread by the blood, but have a marked tendency to infiltrate for great distances into the surrounding tissues and to produce secondary growths in the lymph glands of the region. Consequently in order to insure the care of such tumors, (which of course we should remember includes only the one type of epitheliomas as indicated in our discussion of the subject above), we must make a very wide local excision of the cancerous tissue and remove all of the lymph glands which have had opportunity for cancerous infection.

It is coming to be more fully recognized that all tumors of the skin should be removed because of their marked tendency to become malignant in nature as is seen by the fact that the great majority of the malignant tumors of the skin do originate in such primary tumors or in scar tissue or in old ulcers.

The differentiation of the keloid from the fibro-spindle cell sarcoma occurring in scar tissue is an important question. It is frequently a difficult and often impossible problem to do so microscopically, but clinically the two tumors can be rather easily differentiated. The keloid does not spread beyond the original scar.. The sarcoma does. The keloid does not ulcerate; the sarcoma often does. The keloid reaches a certain size and ceases to grow. The sarcoma does not cease growing but continues to grow without limit.

MALIGNANT TUMORS OF THE BREAST.

The terrible frequency of carcinoma in the female breast accentuates the importance of a careful study of these tumors from every possible standpoint and has brought about the development of the careful and elaborate technic in their surgical treatment.

And the large proportion of successful results following the correct surgical treatment emphasizes the paramount importance of insisting upon the use of this correct treatment in every case. Statistics now show that in the early cases which are treated by the complete method 80% recover. These results seem nothing less than marvelous when we consider the inevitable fatal result without proper treatment. And more marvelous still, the figures show that the complete operation results in 40% of cures including all operable cases both early and advanced.

The complete operations which should be applied in every case of carcinoma of the breast, comprises not only the removal of the tumor and the breast, but of the overlying skin, the pectoral muscles and fascia as well, and the lymph channels and lymph nodes of the axilla, and not simply the removal of the breast alone, leaving the axillary lymph glands in place if they are apparently not involved.

Here we do not have to discriminate as in skin cancers where the squamous cell variety alone must be treated in a manner identical to the breast operation, while the basal cell type is treated locally only. All cancers of the breast must be treated as the malignant type of skin cancers should be treated.

Again contrasting breast cancers with similar growths of the parotid gland and the thyroid gland, which fortunately are so uncommon as to be almost a curiosity, we find this difference, that when they do occur they are invariably fatal, notwithstanding the most radical operations.

In advocating the radical operation in all malignant cases early and late, Bloodgood goes still farther and says that the complete operation is indicated not simply in all positively proved malignant cases, but in every case where there is a reasonable ground for believing the growth to be malignant. And this leads us to the consideration of the best method of making the pathological diagnosis in these cases of breast tumor where malignancy is suspicioned. One method is to remove the tumor from the breast when it is possible to so remove it, or the entire breast containing the tumor, then to send the tumor to the laboratory for microscopic diagnosis. If it proves to be a cancer then the surgeon hopes that the local operation was sufficient, that local infiltration and lymph node metastasis has not yet occurred, and that there may not be a recurrence. When in such a case, however, a recurrence does take place the prognosis for final cure is infinitely less favorable than for final primary complete operation. Another plan which is sometimes followed in these suspected cases is to incise the breast and remove a small bit of the tumor for the purpose of laboratory diagnosis, closing up the wound and waiting several days for the result of the examination. This procedure sometimes seems to be the best plan under the existing circumstance but when it is followed, the precaution should always be taken to either remove the fragment with the actual cautery or to immediately sear the entire wound surface with strong phenol or with the cautery to prevent the possibility of local or lymphatic metastasis.

But neither of these plans is the ideal. Where a microscopic examination seems necessary or desirable, and such examination in a considerable proportion of the cases is not necessary before complete removal when the typical symptoms are present, there is no question that the best method is the rapid preparation and examination of the tumor tissue by making a frozen section at the time of operation. Where preparation is made for this procedure it can be done in a very few minutes and is the ideal method. The precaution should be followed of cauterizing the wound when the fragment for examination is removed as described above.

The symptoms and signs which point positively to carcinoma in the breast are, first, ulceration of the nipple in a non-lactating breast. This should be sufficient evidence of the so-called Paget's disease to justify immediate radical operation. Second, retraction of the nipple, with or without pain. The symptoms which are not pathognomonic, but to other causes are, bloody discharge from the gland, and pain. Pain in itself is not a sign of breast cancer, especially in the early stages of the tumor.

The microscopic recognition of breast cancers is a very important factor in the diagnosis and treatment of these cases, and in a well defined case there is no tissue that is easier to recognize, but personally I have examined numerous tumors which were a great source of difficulty to decide positively whether or not malignancy was present. And I find that I am not alone in this predicament. Mallory, of Harvard, says on this point, "It is not possible to separate these tumors sharply into two groups, and say definitely that clinically one group is benign and the other malignant. Certain tumors are on the border lines and may at any moment invade the surrounding tissues." He furthermore says that the relation of benign and malignant tumors of the breast as well as of the chronic inflammatory growths of the breast require much more careful comparison and study.

Another type of malignant breast tumor must be recognized and its treatment understood. I refer to the myxomas which usually grow to a large size, larger often than carcinomas, they frequently occur in young women and if not removed usually become sarcomatous. Their removal should include the overlying skin, the pectoral muscles and fascia, but not the adjacent lymph glands as sarcomas do not produce lymphatic metastases.

TUMORS INVOLVING THE LONG BONES.

Bloodgood has presented a most helpful study and classification of these growths. The lesson which he most strongly emphasizes is the conservative surgical treatment of these lesions. The surgeon of the past thought the necessary treatment for sarcoma involving a bone of one of the extremities was amputation and amputation as high as possible. A consideration of the nature of the sarcomatous growths shows the fallacy of this idea. The secondary growth from sarcoma do not occur in the region of the primary tumor but in distant organs, and in every case if the tumor is so far progressed and of such size as to demand high amputation for its possible cure, such treatment most certainly will in no case result in cure, as in such a case there are undoubtedly already formed secondary growths in distant parts of the body. The indications for treatment of sarcomas of the limbs and bones of the limbs then is complete local removal of the tumor, and at the earliest possible moment. Consequently early diagnosis is the great desideratum. This local removal can in many cases be accomplished by resection or simple excision without sacrificing the limb. But of course in the malignant types of sarcoma this local removal must be absolutely complete.

In studying the sarcomas of the bones it has been learned that similarly to the epitheliomas of the skin and entirely at variance from the rule in cancers of the breast, discrimination between the different varieties of sarcoma is necessary as there are marked variations in malignancy corresponding to different structural types of sarcomas. I have condensed Bloodgood's conclusions on this point into the following brief clasification:

1. Bone cysts, strictly benign, cured by simple incision and curetting.
2. Giant cell sarcoma, of relatively small malignancy, cured easily by curetting or resection.
3. Periosteal sarcomas, of the nature of mixed tumors, including osteo-sarcomas, myxo-sarcomas and fibro-sarcomas. These have only a relatively small degree of malignancy and can be cured by resection.
4. Round-cell sarcomas and spindle-cell sarcomas, always extremely malignant. If attacked early they may be cured by resection as well as they could by amputation. If later they are absolutely hopeless for any operative treatment as systemic spread has already occurred.

There is probably no question of the accuracy and importance of this classification, and microscopically these distinct classes of tumors are readily recognized, but without doubt to the great majority of general surgeons the recognition of these various forms of bone tumors would be practically impossible. However, Bloodgood insists that their recognition by the surgeon is possible and necessary and in arriving at a diagnosis in each case he makes use of, 1st, the clinical history; 2nd, the external appearance of the tumor; 3rd, the radiographic picture; 4th, the appearance of the tumor upon exposure, and 5th, if necessary, a frozen microscopic section at the time of operation. If this careful discrimination is necessary in every case of suspicious bone tumor, then without doubt these cases will have to come into the hands of men who have made an unusually careful study of this class of tumors.

I regret that the consideration of these malignant tumors so far covered has required so much space and that the limits of such a paper preclude consideration of other important regions and tumors.

COUNTY SOCIETY REPORTS

Adair—The Adair County Medical Society, after a long rest met at the home of Dr. William Blairs on the first day of May, 1913, and had a fine meeting. For twenty months Dr. Blair has been in feeble health, paralyzed on one side and not able to be up at all. He always took a deep interest in medical societies, and in all medical subjects. He could not get out from home, and Dr. Taylor, our Secretary, conceived the idea of having a meeting of the old society at the home of Dr. Blair. I suggested the idea to the doctor, and it met with his hearty approval. He wanted all the doctors to come and bring their wives. His wife said that she would prepare dinner for all who might come. The day was most glorious. The doctors present were: R. C. McChord, Lebanon; J. D. Combest and wife, Russell Springs; S. A. Taylor, Montpelier; W. F. Cartwright and wife, Columbia; S. P. Miller and wife, Columbia; C. M. Russell, Columbia; W. J. Flowers, Columbia; U. L. Taylor and wife, Columbia; N. M. Hancock, Cane Valley; B. J. Bowlin and wife, Glensfork; William Blair and wife who were at home. Besides these there were five daughters and two sons of Dr. Blair's, twenty-five grand children, and a goodly number of neighbors. The dinner was grand. I will not use the old saying that the table groaned under the weight of the dinner, but I will say that many of the guest groaned before the wee small hours of the morning. Dinner came on about 11 o'clock, and the first table consisting mostly of doctors got through and were ready for business before 12. Then began the real business of the day.

R. C. McChord read a very fine paper on some of the "Displacements of the Uterus." It was well written, well read, and freely discussed by all the doctors present.

Several years ago **William Blair** read a paper before this society on the "Pestiferous Fly." He gave it to the secretary to be sent to the State Journal, but it was lost, and only lately found. The secretary copied it, and gave it to W. J. Flowers to read at this meeting. I will send it to the Journal. All the doctors present discussed the paper.

R. C. McChord had several pathological specimens which he showed to the doctors. A goiter, a womb, and several others of minor importance. Quite a number of clinics were brought to the meeting, but none were operated on, for the doctors went there to have a good time, and not to practice surgery.

After these cases had been disposed of, the secretary, **U. L. Taylor**, read a paper on "County Medical Societies." This paper caused more discussion, and cross-firing than anything that took place. The discussion, however, was all in a good spirit, and resulted in a reorganizaton of the society, with the following officers: S. P. Miller, President; William Blair, Vice President; U. L. Taylor, Secretary, and N. M. Hancock, Deelgate. The censors will be appointed at our next regular meeting which will take place in Columbia, on Friday, May the 9th, 1913, when all the members agreed to pay their dues. They all agreed to make good and lasting members. This was a day long to be remembered. Two of our Columbia doctors were sick, and unable to attend. Fifty-six persons partook of the bountiful dinner, and enough was left to feed as many more. While all present enjoyed the meeting, none more so than Dr. Blair himself.

U. L. TAYLOR, Secretary.

Adair—The Adair County Medical Society met at the office of W. F. Cartwright, in Columbia, on May 9th, 1913, with the following members present: S. P. Miller, President; U. L. Taylor, Secretary; N. M. Hancock, Delegate; W. J. Flowers, B. J. Bolin, C. M. Russell, and W. F. Cartwright. A regular time was agreed on for the society meetings, which is the Thursday after the first Monday in each month.

The following program was agreed on for the next regular meeting:

W. F. Cartwright, "Cholera Infantum."
S. P. Miller, "Dysentery."
C. M. Russell, "Pneumonia."
B. J. Bolin, "Infantile Paralysis."
S. A. Taylor, "Articular Rheumatism."
W. J. Flowers, "Animal Therapy."
H. B. Simpson, "Senile Gangrene."

All the doctors who had not heretofore paid their dues did so at this meeting.

Our old friend, Dr. Waggener, died a few days age, and was buried at this place.

The remains of Dr. Grady was brought here from Illinois and buried a few days since.

There being no further business, teh meeting adjourned.

U. L. TAYLOR, Secretary.

Crittenden—The Crittenden County Medical Society met in the McConnell building, Marion, May 7, 1913, at 1 P. M., with the following physicians present: T. Atchison Frazer, J. D. Threlkeld, O. C. Cook, I. H. Clement, V. R. Fox, and J. E. Fox.

J. Ernest Fox read a paper on "Asthma," which was discussed by J D. Threlkeld, O. C. Cook, T. A. Frazer, I. H. Clement, V. R. Fox and J. E. Fox.

T. Atchison Frazer read a paper on "The Fallacies of the Theory of Maternal Impressions" whic hwas discussed by all present

Adjourned to meet Wednesday, June 4, 1913.

J. ERNEST FOX, Secretary.

Carter—The Carter County Medical Society met in regular session at Hitchens, Tuesday, April 8, 1913. After partaking of a delicious repast at the New Hotel, as the guests of W. A. Horton, the meeting was called to order by the President, T. T. Bays. Those present were: W. A. Horton, Wilcox, O'Roark, Fraley, Lyons and Stovalle.

Diphtheria, tuberculosis, and cerebro-spinal meningitis were well discussed, also plans made for a stronger and better society.

J. WATTS STOVALL, Secretary.

Franklin—The Franklin County Medical Society met in social session with G. W. Armes, Superintendent of the Feeble Minded Institute, present, Drs. Austin, Keller, Fish, Chinn, Heilman, Barr, Wilson, Williams, J. P. Stewart, Coblin, Patterson and the host, G. W. Armes.

An informal discussion by **Drs. Kellar, Fish** and **Armes** on "Tuberculosis," both anthropological and bovine, with remarks on the new Friedman treatment of tuberculosis.

After which, the society was invited to the dining hall where a most excellent luncheon of six courses was served preceded by an appetizing Roman punch, Manhattan cocktails, etc.

During the coffee and cigar course, many impromptu pleasantries were indulged in, one an original poem by U. V. Williams, on the young doctor of a half century ago with no personal allusions to the present output of the modern colleges. The whole was a feast of gastronomic delight and a flow of soul and good fellowship.

I remember, I remember it was in eighteen fifty-nine
When old Jefferson graduated me high up in the line,
I left the college all puffed up and proud very, very vain,
That I was a full fledged M. D. well posted in the game.
For they stood me up among the best ones at the top,
Said to be one of the very best ones that ever left the shop.
Fully equipped to lead the unfortunate and hungry in the van.
A very sophonorical and truly honor man,
Who was endorsed by Dungleson and Bach and Gross
With Charlie Meigs my god-father and very partial host.
Stuffed up with bacterial fads and propigating college germs,

Which I had imbibed in full three years of college terms.
I was sorry and I thought it was a very shame
That I should have to show old doctors the newest of the game.
I was tender-heartd, sympathetic and could not bear to see
The frown of jealous doctors when people spoke of me.
For I was decked with honors and diplomas all galore
The doctors never had heard of in all the world before.
Known only to Bacon and Graves and Meigs and Koch.
That the spirit of these worthies I could now invoke.
I was the warmest baby that ever left the place,
Thought I was the leader of all the human race.
I had faded these old worthies and Solomon as well
And what I knew it would take a dozen books to tell.
But Pancoast assured me and he was kind enough to say
"The other folks will manage to get along some way.
I could not quite believe him, you see that was before
I had taken my first toddle outside the college door.
Then I set forth to conquer this poor old easy world
With wind and weather charming and every sail unfurled.
It was many long years ago, how many I now forget
And still I don't mind owning, the world ain't conquered yet.
I remember, I remember the day I quit the school
Since then I have been learning, how not to be a fool.

Moral.

"Unsuccessful, full of learning
He will die for want of bread.
If successful, full of earning
He will die for work instead."

In concluding, Dr. J. P. Stewart offered a resolution of thanks to the host which was adopted by a unanimous standing vote.

Adjourned.

U. V. WILLIAMS, Secretary.

Hart—The regular May meeting of the Hart County Medical Society was called to order at 2 P. M., May 6th by the President, J. W. Craddock. The roll showed present: Drs. J. J. Adams, S. F. Richardson, C. Hall, J. H. Clark, Chas. H. Moore, J. W. Craddock, and W. F. Nichols, members, and A. D. Willmoth of Louisville and K. W. Hester, dentist, of Munfordsville, visitors.

After the minutes of the last meeting were read and adopted, W. F. Nichols was elected Secretary vice J. C. Dodson removed from the county, and S. F. Richardson was chosen delegate to the State Association, vice D. C. Donan, also removed from the county, and Chas. H. Moore was chosen alternate.

H. P. Honaker was duly elected a member of this society, being demitted from the Barren County Society.

Upon motion the society voted an invitation to the Muldraugh Hill Medical Society to meet at Munfordsville at its December, 1913, meeting as the guests of the Hart County doctors.

Next the regular program was taken up. The subject of "Pellagra," was discussed by **C. Hall** and **J. J. Adams**, followed by a round table discussion by the society. **C. Hall** gave a report of a case which he had treated. He gave a good description of the case and illustrated the typical gait. He treated the case symptomatically, using an ointment containing thymol and eucalyptol for the skin eruption.

J. J. Adams discussed the subject, as he said, theoretically, having had but little experience in treating it.

The subject of "Vaccine Therapy," was next taken up and discussed in a general way.

C. H. Moore says he has used several of the vaccines, and feels confident that not only the diphtheria vaccine, but others, are very useful

A. D. Willmoth talked of the different classes of vaccines, and referred to those which he thinks are dependable and those which are not. He condemns the commercial exploitation of any vaccine before it has been thoroughly tried out and accepted by the profession. He is strongly opposed to the manner in which the vaccine known as "phylacogen" has and is being exploited by its manufacturers. He does not use it but from his limited knowledge of it and its effects he says he is afraid of it. He thinks it is a product of unknown and uncertain strength, and by reason of its complex composition he thinks its physiological action is just as uncertain. Dr. Willmoth is an ardent advocate of the vaccines which have been properly prepared and marketed and whose worth have been proved. He thinks that the stock vaccines, while not so desirable as the autogenous, are nevertheless very useful.

A. D. Willmoth was the last on the program, his subject was "Prolapse of the Uterus: Its Cause and Treatment." Dr. Willmoth gave a very interesting and instructive paper illustrated by large colored drawings. He recommends the pessary, tampons, and rest in the recumbent position in the milder cases and the cases where an operation is contraindicated or impossible.

The question of the isolation of measles and whooping cough was taken up by members of the county board of health, all of whom were present. The members are uncertain as to their authority in such cases. All think that they should be isolated, but just how to go about it is the difficulty.

The society adjourned to meet again June 3, 1913.

W. F. NICHOLS, Secretary.

Harrison—The Harrison County Medical Society met at the Harrison Hospital, April 7, 1913. President McDowell in the chair.

At this meeting eighteen members were present. R. W. Wood was unanimously elected to membership.

N. W. Moore presented an interesting case of ''Aortic Stenosis.''

L. S. Givens reported a successful mastoid operation in a baby four months of age.

Josephus Martin read a paper on ''Medical Ethics,'' which was enjoyed by all and freely discussed by Drs. Wells, Carr, Best, Rees, Givens and Moore.

Society adjourned to partake of an elegant lunch prepared by Mrs. Monroe, matron at the hospital.

W. B. MOORE, Secretary.

Kentucky Midland—At a meeting of the Kentucky Midland Medical Society held in Frankfort April 10th, the first meeting of the society since the death of Dr. W. F. Beard, which occurred in Shelbyville on January 8th, 1913, Dr. U. V. Williams called attention to the death of Dr. Beard, in a few appropriate remarks, when it was ordered by the society that Drs. Louis Frank, Curtis Austin and U. V. Williams be requested to prepare a memorial page to be spread upon the records of this society, commemorative of the life and death of our beloved confrere, to-wit:

Dr. William Foree Beard was born in Fayette county, Kentucky, in 1835, of the pioneer Beard family of Kentucky, he was graduated in medicine from the Louisville University in 1858, under the direct tutelage of Dr. David Yandall with whom he continued a life long professional association until the death of Dr. Yandall.

In 1860 he married Miss Matilda Roberts, together they celebrated their golden anniversary and for more than 52 years they journeyed together along life's pathway, John Anderson, my Joe like, loving and trusting to the end, she with six sons and one daughter survives him.

He first located in Oldham county, later in Christiansburg and in 1890 to widen his scope he located in Shelbyville, where he continued to practice his profession up to the very time of his death, truly it may be said, dying with the harness on.

Mason—At a recent meeting of the Mason County Medical Society, the following officers were elected for the year 1913:

A. O. Taylor, President.
A. Quigley, Vice President.
C. McGuire, Secretary and Treasurer.
S. R. Harover, Delegate.
L. Long, Alternate.

C. McGUIRE, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of Dr. John E. Wilson, in Butler, on Wednesday, February 12, 1913, with the following members present: Beckett, Blackerby, Brown, Clark, Cram, Daugherty, Hopkins, McKenney, Nichols, John E. Wilson, J. Ed Wilson, Woolery, W. H. Yelton.

The meeting was called to order by President Brown and after roll call and a reading of the minutes of the previous meeting, we proceeded to the business of the day.

Nearly all members present paid the additional 50 cents to the medical defense fund, to the society.

We had a very good report of clinical cases, and all the members entered into the discussion with spirit.

Afternoon Session.

We had a good paper on ''Hemorrhoids,'' by **John E. Wilson.** Discussed by O. W. Brown and others.

S. M. Hopkins read a paper on ''Abortion,'' which was discussed by T. C. Nichols and others.

We then adjourned to meet the second Wednesday in next month.

W. A. McKENNEY, Secretary.

Russell—The Russell County Medical Society met at the Holt Hotel, Jamestown, April 26. There being only three of us present and the anniversary of the Odd Fellows, Boys' Corn Contest, Lecture by Prof. Fred Mutchler to the Farmers' Meeting and Meeting of the School Board, the medical society, by invitation, adjourned to take part in the foregoing meetings. Those present were: W. G. D. Flanagan, John D. Combest and J. B. Scholl.

The local Board of Health of Russell County was also reorganized. The following are members: W. G. Flanagan, President; J. S. Rowe, Vice President; J. B. Scholl, Secretary and Treasurer; Judge A. M. F. Hill and J. N. Meadows, members.

J. B. SCHOLL, Secretary.

Shelby—The Shelby County Medical Society held its regular monthly meeting Thursday, April 17, at Hollenback's Hall with the following members present: Drs. Lawrence, Hughes, Eggan, F. M. Beard, S. L. Beard, Ray, McMurry, Melton, Smith, Jones, Sellers, Morris, Allen and Minnish of Frankfort.

W. E. Allen read a paper on the ''Summer Diarrhoea of Children,'' which was thoroughly discussed by all present, several valuable suggestions being brought out. Several clinical cases were reported and discussed by the members present.

V. R. Jones entertained the society at dinner with an elaborate spread that included all the delicacies of the season and quite a few out of the season.

Our program for next month is as follows: Typhoid Fever, **J. F. Adams** of Bagdad; **W. T. Buckner** to select his own subject.

J. F. Jesse, of Waddy, entertains the society next time and the secretary can scarcely wait for the third Thursday in May, well knowing Dr. Jesse's tendencies in the feeding line.

W. E. ALLEN, Secretary.

Scott—The Scott County Medical Society met at Stamping Ground as the guest of the physicians there and were entertained at dinner. Those present were Drs. Crutchfield, Mason, Wilhoit, Allphine, Heath, Porter, Salem, Coons, Barlow, Knox, Johnson, Downs, Minish and Lancaster.

D. B. Knox read a paper on "Surgical Treatment of Gall Bladder." He showed a thorough knowledge of the subject, he having recently been with Mayo Brothers along this line of research The paper was heartily discussed by all present.

H. V. Johnson also read a very practical paper on "Treatment of Fractured Clavical" and all present discussed this paper.

D. B. Knox invited the society to take dinner with his at its next monthly meeting.

E. C. BARLOW, Secretary.

Taylor—The Taylor County Medical Society met in the office of the Secretary, May 8, 1913. Present: Drs. Heistand, Black, O. M. Kelsay, Reesor, Elrod, S. H. Kelsay, Sanders, Gowdy and Atkinson.

Minutes of meeting of October 10, 1912 read and approved, that being the last meeting at which a quorum was present.

Officers for the year were elected as follows: President, W. R. Elrod; Vice President, E. L. Gowdy; Secretary-Treasurer, J. L. Atkinson; Delegate, O. M. Kelsay; Alternate, Atkinson; Censors, Reesor, Elrod and Hiestand.

The following resolutions concerning fee splitting were read and on motion of Dr. Atkinson, seconded by Dr. Hiestand, were adopted:

Whereas, It is stated that among some physicians there has developed a pernicious custom of commercializing the most intimate and sacred confidences committed to their honor, by referring their patients who need special or expert treatment to specialists or surgeons, who financially remunerate them for their reference, either by paying a commission or by dividing with the regular physician their fees as specialists or surgeons;

Whereas, It is prejudicial to the individual physician and to the medical profession at large to allow such injurious rumors to circulate unproved or unchallenged; and

Whereas, It is the duty of our profession to protect the honorable position we have won by generations of faithful, unselfish service; therefore, be it

Resolved, By the Taylor County Medical Society. 1. That we earnestly condemn such dishonorable dealings on the part of any one professing the high calling of medicine.

2. That we urge all State and County medical organizations to vigorously oppose such dishonorable dealings.

3. That no guilty doctor, whether donor or recipient of such a fee or commission in any way, shape or manner, should be allowed to escape a suitable penalty, such as private repримand, temporary suspension or pubilc expulsion.

4. That these resolutions be spread upon the minutes of this society, and that a copy thereof be forwarded to the State Journal.

E. L. Gowdy read a very interesting and entertaining paper on the subject, "The Doctor; Some Things He Does, and Some Things He is Blamed For."

H. G. Sanders exhibited a case of a boy of 15 year sof age with a swollen knee of fifteen months' standing. At the beginning had some fever of two weeks' duration, and at one time some months later had some fever. The boy had a short attack of rheumatism in early childhood. Knee is now not tender and has limited motion. Dr. Sanders has given the salicylates and potassium iodide and local applications. Much exercise causes the knee to give more pain.

O. M. Kelsay thinks it a case in which the phylacogens might be of marked benefit. He reported good results in one case from the use of the phylacogens.

J. L. Atkinson did not favor the use of the Phylacogens in this case but believes the iodides indicated, especially the local application of iodide petrogen.

S. H. Kelsay reported a similar case in which he used iodide treatment and electricity and was relieved.

O. R. Reesor reported a case of epilepsy in a lady 40 years of age which developed about four months ago. She has had six or seven seizures, all of which have come on about 2 or 3 o'clock A. M. Patient the mother of four children. Wasserman test negative. Has some headache but not a prominent symptom. History of case negative as regards specific cause. Dr. Reesor would like to know the cause. Dr. Atkinson would suspect brain tumor.

C. V. Hiestand reported a case of gangrenous stomatitis in a child twenty-three months old. Child had measles followed by catarrhal pneumonia—improved but was cross. Mouth became sore and breath very offensive, and found discolored ulcerations and induration which rapidly sloughed through the cheek. Necrosis of bone and death of soft tissues rapidly increased and child died within a few days.

O. R. Reesor reported a case of facial erysipelas in which he used antistreptococcic serum with prompt improvement.

J. L. Atkinson reported a case of general infection from a small wound on the toe of a boy of 8 years old. Has used antistreptococcic serum and ichthyol, ung. crede and tr. iodine locally. Has also given other internal treatment but the cases has been quite stubborn.

Program for June meeting prepared and meeting adjourned.

J. L. ATKINSON, Secretary.

Warren—The regular meeting of the Warren County Medical Society was held in the City Hall, Wednesday, April 9, 1913, with the following doctors present: J. H. Blackburn, Barr, Hall, Townsend, Arnold, Rau, McCormack, Huddle, South, Adair, Moss, Blackburn, Mark, Rutherford, Cartwright, Helm, J. H. Souther, presiding. Members of Housekeepers League present: Mrs. Doolan, Mrs. Crump, Mrs. Ford, Mrs. Doom. Minutes read and approved, the following suggestion was made:

W. F. Arnold moved that a committee be appointed to act upon the offer made to him, by the Secretary of the Board of Trustees of Ogden College, of a room in the Ogden College building as a home for the Warren County Medical Society, this room being capable of use as a meeting place of the said society. Motion made and seconded to allow the Committee on Library more time to make report at June meeting.

E. Rau made a report on examination of school children in Room No. 7, composed of 20 pupils. Four had adenoids, eleven showed eye strain, sixteen showed enlarged adenoids, eighteen showed enlarged tonsils.

J. H. Blackburn said examination of this particular room was not particularly fair as this was a hold-over room, forty-four on roll, thirty-six present. It was asked that all who had not lost time on account of sickness since Christmas to raise their hands. One child responded. Seven out of thirty-six parents gave permission to have this examination. Finally twenty-two gave consent. Eitghteen had enlarged glands. Fifty per cent of these children had enlarged tonsils that needed attention. Eighteen had pus germs on throat. Cultures for diphtheria were negative. He quoted examinations made by Carrollton school. Out of 219 children, 183 had some defect of ears, eyes or tonsils.

Wallace Barr said parents seem to neglect the mouths of their children. Twenty out of twenty-one children examined here had dental defects, 75 to 85 per cent of bad teeth and gums could be remedied if they were kept clean.

J. W. Blackburn said "The mouth is the hot bed of germs that gain entrance to the body. Try to teach parents and children how to keep their mouths clean. The result of examination should be given to parents so that they can give their children the benefit of it." Dr. Blackburn said a great deal on benefits of clean mouths. The mouth the portal of entry of everything, neglect of teeth causes decay. Nerves become exposed, die, putrescent material goes into stomach, child will not masticate food thoroughly, consequently weakened body.

W. P. Drake read an interesting paper on "The School Children" which will be published in the Journal.

Moved and seconded that the housekeeper, parents, teacher, have public meeting in next two weeks, carried.

Society adjourned to meet in Auburn with the Tri-County Medical Society, May 13, 1913.

L. H. SOUTH, Secretary.

BOOK REVIEWS

Psychanalysis: Its Theories and Practical Application.—By A. A. Brill, Ph. B., M. D. Chief of the Neurological Department of the Bronx Hospital and Dispensary; Clinical Assistant in Psychiatry and Neurology at Columbia University Medical School. Octavo of 337 pages. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $3.00 net.

A few years ago, certainly not to exceed five, the name of Sigmund Freud, a professor of neurology in Vienna, was practically unknown to the medical practitioner of America, save to a few advanced students along psycho-pathological lines. At that time the literature that is now designated as "Freudian," was very scant and the reader who was not acquainted with the German language, was unable to obtain more than a fleeting glimpse into the intricacies of the psycho-pathology propounded by this now noted Viennese. Freud has founded a new psychology; has introduced basic principles that serve to explain, from his standpoint, a great many of the riddles that were as difficult to solve as those of the Sphinx. After countless ages, the medical practitioner knew little or nothing of the psychologic origin of many of the symptoms of the psychoses and neuroses; his knowledge was indefinite rather than definite, and finally, it had to be confessed that in a great many of them their permanent relief was a grave and doubtful question.

Freud, himself, is worthy of study. His intellectuality is keen and penetrating; his writing and studies have covered an enormous field, and while the reviewer cannot, by any means, subscribe to all of Freud's doctrines in toto, still as experience comes, he is beginning to see more and more of the possibilities of Freud's psychology. It is well worthy of any one's study.

Among Freud's first American pupils, was Dr. A. A. Brill, and it is to his versatile pen that we owe the translations of Freud's works, as well as many original articles covering the application of the "Freudian Psychology" to many different disorders. Freud cannot and should not be dismissed ; he must be studied; if he is right he should be acknowledged, if not rejected. The refusal of some to investigate is hardly worthy of a scientific profession.

As a gratifying evidence of the progress of this Psychology and of the enterprise of the American publisher, there has been lately collected in book form under the title; "Psychanalysis," the articles that Dr. Brill has been from time to time contributing to the various medical and technical Journals of Psychology, etc. These articles have been carefully revised and are now presented in their logical sequence, so that his book gives the reader a very fair insight into the greater part of this psychology.

The perusal of this book would repay the time spent and would be beneficial to any physician, be he general practitioner or specialist. When once it has been read and its contents mastered, the medical man will have had a flood of light thrown upon many a dark corner and harrassing problem, and while Freud's work of psychanalysis is not suited for the general practitioner to carry on, still a working knowledge of this psychology will prove of inestimable benefit to the physician himself, as well as to his patients. He should be able to diagnose, understand and intelligently refer his patients to the psychanalyst.

The chapter upon "Dreams" is to be especially commended. As a "Royal Road" to an investigation of the patient's unconsciousness, these phantoms of our sleeping hours, offer advantages possessed by no other material. The reviewer's own limited experience in the analysis of dreams has taught him a profound respect for this epochmaking work of the Freudians. Brill's chapter is of necessity curtailed; it could not be otherwise when we remember that Freud's treatise is a large volume. The chapter on the "Psychopathology of Every Day Life" would prove of interest to layman and the general practitioner will be able to enjoy a scientific explanation of these acts that have heretofore really attracted his attention, little or none at all. Too often they have been classified and dismissed as "peculiar." Freud's explanations are enlightening. No physician should fail to read the chapter on the "Only or Favorite Child." It is clear, easily understood, and if the principles he enunciates are true, then the application of the therapy suggested, not alone for the "only" but the "spoiled" child would indeed, by prevention, save the child from much unhappiness and make the later life of those who are compelled to live with him, less of a burden.

A growing experience with the association test enables the reviewer to confirm much that Brill has to say; this work and the deep technical study of paranoia belong to the field of the specialist.

An intimate relation between the same psychological processes that govern the dream, psychosis, neurosis, hysteria, obsessions, wit and the mistakes of "Every Day Life," would seem on first blush to be far fetched, but Freud has shown in his psychology that the same mechanism and principles hold. We are inclined to believe that the Freudian doctrines will stand the wear and tear and the test of time.

The dismissing with ridicule or censure a patient suffering from morbid fears, dreads and the *folie du doubt* is little short of criminal. The practitioner should realize that these obsessions are simply the "sign posts" of unconscious conflicts and can be relieved by psychanalysis as I personally know. The chapter upon the "Compulsion Neurosis" is one of the best yet written in English. Dr. Brill is to be heartily congratulated upon his book; upon the clearness of his presentation of a difficult subject; upon his constant endeavor to present to the English speaking physician one of the most useful of methods for reaching cases that have hitherto been the opprobrium of medicine. He has translated and published a collection of Freud's papers on "Hysteria and Psycho-neuroses and Jung's Dementia Praecox;" there is at present on press, Freud's "Interpretation of Dreams" and we are shortly promised Freud's "Psychopathology of Every Day Life" and "Wit and Its Relation to the Unconscious."

This latest work of 'Psychanalysis" I can heartily recommend and can only say that the medical profession, and especially the neurologist and psychiatrist, who do not read German, are under many obligations for the pioneer work Brill has done in translating the works of Freud. Until one has attempted the reading of the originals he can not realize the labor involved.

Curran Pope.

The Surgical Clinics of John B. Murphy, M. D.—Volume 1, Nos. 2, 3, 4, 5, and 6. Each a large octavo of 150 pages, fully illustrated. Per year (6 numbers) paper, $8.00; Cloth, $12.00. W. B. Saunders Company, 1912. Philadelphia and London.

Throughout the year each number of this great work has been an improvement on the preceeding number. The publishers seem to be determined to out-do themselves each month with the result that the volume, completed with the December number, forms a most practical reference work of modern surgery. Our readers should not conclude that these Clinics are exclusively surgical.

This is far from the case. In a great number of instances, the medical side is discussed by leading internists, such as Dr. Charles L. Mix, of Northwestern, who takes up the various cases from the general practitioner's point of view, giving special emphasis, of course, to diagnosis. Further, the subscriber to these Clinics gets not only Dr. Murphy's wonderful work, both in operations and talks by such noted continental surgeons as Mr. Arbuthnot Lane, of London; Dr. Albert Caan, of Heidelburg; Dr. Raffaele Bastianelli, of Rome, and other international authorities who come to Chicago to see Dr. Murphy operate. We cannot see how any progressive practitioner can afford to be without these Clinics. They give medical history while it is being made. They enable him to diagnose many a case which he otherwise would label "doubtful." They give him little points in treatment which he can not get anywhere else. They are stepping stones to his success. If studied and followed they will make him a reputation that will extend far without the boundaries of his immediate community.

The Operating Room and the Patient.—By Russell S. Fowler, M. D., Chief Surgeon First Division, German Hospital, Brooklyn, New York. Third Edition Rewritten and Enlarged. Octavo volume of 611 pages with 212 illustrations. Philadelphia and London W. B. Saunders Company, 1913. Cloth $3.50 net.

The Modern Hospital; Its Inspiration; Its Architecture; Its Equipment; Its Operation.—By John A. Hornsby, M. D., Secretary Hospital Section, American Medical Association; Member American Hospital Association, etc., and Richard E. Schmidt, Architect, Fellow American Institute of Architects. Octavo volume of 644 pages with 207 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $7.00 net; half morocco $8.50 net.

This volume of over 600 pages gives in detail everything pertaining to a modern hospital. Its construction, maintenance and equipment receive special attention. It is amply illustrated.

THE FORUM

Cave City, Ky., April 3, 1913.

To the Editor:

Since sending you my annual dues I have found out that most of the members of the State Association are paying $3.00 instead of $2.50. Now, I have no desire to reap benefits for which some one else pays, consequently, I am enclosing fifty cents in stamps to bring my dues up to the standard set by the majority. I am sorry that I did not know of this sooner but I presume it's "better late than never." I would also like to ask for a transfer to the Barren County Society: I have an automobile now and I will be able to attend the meetings more regularly. Thanking you in advance for this favor, I beg to remain,

Very truly yours,
W. M. Ewing.

IN MEMORIAM

At a meeting of the Kentucky Midland Medical Society, held in Frankfort, April 10th, the death of Dr. C. M. Paynter was announced with tribute to his memory.

Whereupon, a committee, composed of Drs. Williams, Frank, and Beard, was appointed to prepare a memorial page to be spread upon the minutes of the society, a copy to be forwarded to the Kentucky Medical Journal and the family of the deceased.

Dr. C. M. Paynter was born near Salem, Indiana, December 23, 1854, was graduated in medicine from the Louisville University, March, 1881. He practiced his profession at Glensboro a short time, then removed to Fox Creek, in Anderson county, Kentucky, and was there located until 1891, when he removed to Lawrenceburg, continuing there in practice until his death, which occured in Lexington on April 2, 1913, at the Good Samaritan Hospital, to which institution he had gone that he might be under the care of Dr. Anderson, a specialist in spondolotherapy, he had long been a sufferer of chronic asthma and some nervous complications, confining him to an exclusive office practice for the last year or more of his life.

Dr. Paynter was a physician of marked ability, of generous nature, affability and native wit, a Christian gentleman and genial companion.

He is survived by his wife, who was Miss Lelia Fiddler, a son, W. Burton Paynter, and a daughter, Mrs. Holt, wife of Dr. J. P. Holt, of Versailles.

He was twice elected to represent Anderson county in the Legislature, an office he filled with dignity to himself and honor to his county.

Dr. Paynter was an integral part of society in its purest form, a true member of the human family, with every man however humble as his brother.

He had a heart to feel and know that all flesh and blood was human nad that each poor and struggling soul has the same hopes and fears, the same joys and sorrows, their hearts yearn for friendship and bleed and scorn at contumely, the same as his. A heart that beats in sympathy with every human being that toils with arm and brain.

U. V. WILLIAMS,
LOUIS FRANK,
S. L. BEARD,
Committee.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 12 JUNE 15, 1913 $2.00 YEARLY

INVITATION.

To the American Medical Association in Convention Assembled: Greetings:

In this issue of its Journal the Jefferson County Medical Society, Louisville, Kentucky, extends to this representative body of Doctors its invitation to hold your 65th annual session in our city.

We find especial pride in being able to present our respects to you through the pages of our own organ. The Jefferson County Number of the Kentucky Medical Journal is issued regularly on the 15th of each month, is the official organ of our Society, carries our own scientific matter exclusively and has been in existence since April 15th, 1909. Unless we are misinformed there is no other County Society in the Union that can say as much.

In inviting you to meet in Louisville in 1914 we are not unmindful of either the size or dignity of your membership; we know that such ambition to be your host should emanate from a city of no mean capacity; we know that sentiment will not outweigh calm deliberation in the selection of a meeting place; we know that back of such an invitation there must be an individual sentiment. Keenly alive to these facts and conditions, comprehending to the uttermost the tremendous obligation we will be indebted to you if you come, we pledge you a city and a profession willing to unite in an endeavor to make you glad you came and then satisfied in the coming.

The Jefferson County Society, through its President asks you to come; The State Association joins us in this wish; the Mayor and Commercial bodies of our city send you their request to let them make you welcome; the Governor says the whole Commonwealth awaits your coming; the whole Southland says you owe it to us and yourselves to pitch your tents in Kentucky.

"In the Current Issue of the Southern Medical Journal an editorial reads in part:

"The American Medical Association has not met in the South in ten years. Louisville is the logical meeting place for the A. M. A. It is near the center of population of the United States * * both from the point of view of pleasure and scientific interest the A. M. A. cannot find a better meeting place than Louisville."

Geographically we are but a few miles from the very center of population of the nation; commercially, our facilities, railroad and otherwise, are adequate; scenically, our parks, our thoroughfares, our rivers, our farms, appeal to the esthetic; professionally, the roll call of those gone from their labors in the city and state calls to memory a galaxy of stars of the first magnitude and those who now fill their places not unmindful of their heritage.

We have invited you before, and, if in your judgment you see fit to go elsewhere, we will invite you again and yet again, for we believe that "That policy that can strike only twice while the iron is hot will be overcome by that perseverence which, like Cromwell's, can make the iron hot by striking.

VIRGIL E. SIMPSON, Chairman,
CURRAN POPE,
CHAS. W. HIBBITT,
GEO. C. LEACHMAN,
A. C. L. PERCEFUL, Secretary.

American Medical Association,
Minneapolis, Minnesota.

GENTLEMEN:

The medical profession of Louisville and Jefferson County send you greeting and cordially invite you to assemble in our City in 1914.

The members of the medical profession throughout the State join with the Jefferson County Medical Society in asking that the American Medical Association come to Louisville next year.

We can assure you of adequate accommodations and a hospitality and welcome second to none in the country.

On behalf of the Jefferson County Medical Society representing the medical profession of Louisville and Jefferson County, I again earnestly repeat the invitation to the American Medical Association to come to the Falls of the Ohio, where the latch string hangs outside and where the business of men and women is to always accord a warm welcome to the strangers within our gates.

Yours sincerely,
DUNNING S. WILSON,
President Jefferson County Medical Society.

May 26th, 1913.

American Medical Association,
Minneapolis, Minnesota.

GENTLEMEN:

The Jefferson County, Kentucky, Medical Society has taken the initiative in effort to induce you to meet in Kentucky and be its guest in 1914.

By courtesy of Jefferson Medical Society I have the privilege and pleasure of extending this invitation. On behalf of Kentucky State Medical Association; its membership, its House of Delegates, its Council, its Officers and the entire profession of the State, I bid you come to Kentucky in 1914, and to our Metropolis, the City of Louisville, the Home and Headquarters of Jefferson County Medical Society, and be their guest and ours.

You know of Kentucky's fame, but you have long followed other gods and been allured to other climes. Indeed you have been too coquetish? We can endure no longer. Come to us *now.*

Have you an eye for the beautiful and an ear for music? Open your eyes and see the prettiest women in all the world; unstop your ears and listen to their music; come to LOUISVILLE and feel their inspiring influence.

Very truly,
DAVID O. HANCOCK,
President Kentucky State Medical Association.

Frankfort, Ky., May 21, 1913.

American Medical Association,
Minneapolis, Minnesota.

GENTLEMEN:

On behalf of Kentucky I have the honor to invite the delegates of the American Medical Association, now in session at Minneapolis, Minnesota, to hold the annual session of 1914 in the City of Louisville, Kentucky. All Kentuckians will extend a warm welcome to the members of the Association and do all that can be done to make the meeting in Louisville successful and pleasant.

The American Medical Association is well known by reputation in Kentucky, and its next annual session, if held in Louisville, will be greatly appreciated by the people of this State.

Respectfully,
JAMES B. MCCREARY, Governor.

Louisvile, Ky., May 19, 1913.

American Medical Association,
Minneapolis, Minnesota.

GENTLEMEN:

On behalf of the City of Louisville I extend to the American Medical Association a very cordial invitation to hold its next Annual Convention in this, the gateway of the South.

Louisville, like Kentucky, is noted for its hospitality and our people are never better pleased than to be able to give a demonstration of this quality so lacking in so many places. Louisville people make a specialty of entertaining conventions, and if you take the trouble to inquire you will find that this is the real place to come to. We will give you anything we have and if there is anything you want and don't see it you know what to do—ask for it.

We really hope you will honor us by selecting Louisville as your next meeting place. I know that you will not have occasion to regret it.

With best wishes for the success of your individual members and your organization, believe me,

Very sincerely yours,
W. O. HEAD, Mayor.

Louisville, Ky., May 26, 1913.

American Medical Association,
Minneapolis, Minnesota.

Sirs:

The Louisville Commercial Club comprising three thousand members heartily join the Louisville Convention and Publicity League and other organizations and the Jefferson County Medical Society in their invitation to the American Medical Association to hold their session of 1914 in Louisville, the gateway of the South.

Louisville with her splendid hotel facilities, a united profession and a cordial lay sentiment which taken in connection with the natural geographic location of the city will make an ideal place for the meeting of the American Medical Association.

Therefore, as president of the Louisville Commercial Club it gives me very great pleasure to add an invitation of the Club to the other organizations for you to be with us in 1914.

Respectfully,
Henry Enos Tuley, President.

Louisville, Ky., May 20, 1913.

American Medical Association,
Minneapolis, Minnesota.

Gentlemen:

It is the desire of the Citizens of Louisville that your distinguished organization will have its Session of 1914 in the City of Louisville.

The Board of Trade of this City joins in the invitation to cordially wish it may be realized and that the Convention will come to this City so that we can take care of you in all the details you would imagine. Meanwhile, with the great hope that it might be so voted, we are,

Sincerely yours,
Logan C. Murray, President,
Louisville Board of Trade.

Louisville, Ky., May 21, 1913.

American Medical Association,
Minneapolis, Minnesota.

Gentlemen:

It is with unstinted pleasure that we again and for the third successive year extend to your Association a most cordial invitation to hold your next convention in the city of Louisville.

In the way of hotel accommodations and other facilities such as convenient and commodious places for sectional meetings, and a mammoth hall for the opening public ceremonies and other special occasions when great gatherings are to take place, we are abundantly equipped, as our Louisville physicians who present this invitation will demonstrate to your perfect satisfaction.

In the matter of transportation advantages, Louisville is singularly fortunate. As for high-class diversions to occupy the time between sessions, nothing is left to be desired. In addition and not to mention the "sport of kings" which will be in progress at our famous Churchill Downs, we are planning some mammoth entertainments especially in your honor which will impress the delights of Kentucky's hospitality.

Early or mid-June is an ideal time in Kentucky. It is still cool and delightful and invigorating in climate. Then all nature is at her prettiest. Meanwhile we are withholding invitations from all other associations so that by no possibility can any other convention conflict with yours should you come to Louisville. We wan to furnish you the amplest hotel accommodations.

Governor James B. McCreary, for the State of Kentucky; Mayor William O. Head, for the people of Louisville; and our Board of Trade and Commercial Club for the commercial interests, unite with the League in unanimously and enthusiastically seconding the invitation of the Jefferson County Association that your distinguished organization honor this city with your presence in 1914 and we pledge our resources and best efforts to make the meeting one never to be forgotten alike for the maximum of pleasure and profit it affords.

Cordially yours,
Fred W. Keisker,
President Louisville Convention and Publicity League.

Louisville, Ky., May 21, 1913.

American Medical Association,
Minneapolis, Minnesota.

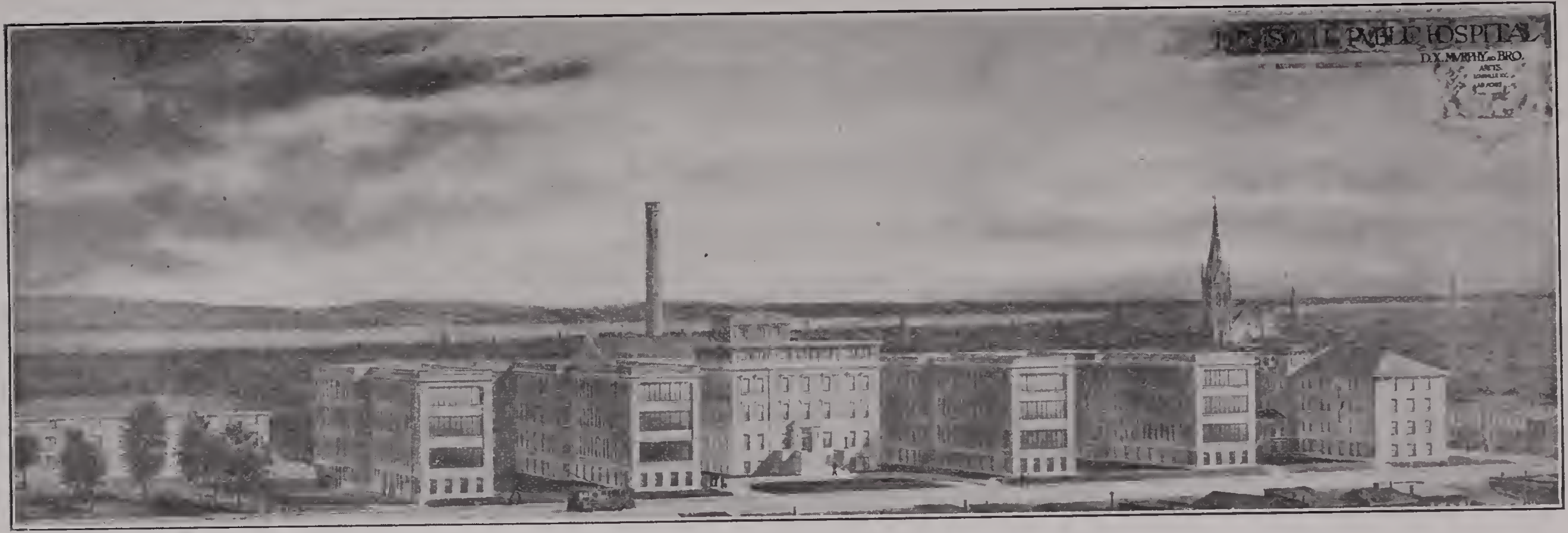
Gentlemen:

We are advised that the American Medical Association, now in session in Minneapolis, has under consideration a number of points from which to choose where it will hold its annual session in 1914.

By order of the President of this Association, I venture to suggest that you could not find in the entire country a more suitable location, centrally situated, hospitality unbounded, and where you would be made as welcome as you would be in the good old city of Louisville, Kentucky.

We have everything here, so far as I know, necessary to make your convention a success, and in behalf of President Weinstock, and the members of this Association, and indeed the general shipping public that this Association represents, I personally urge you to give Louisville your favorable consideration.

Yours sincerely,
John J. Tilford, Secretary,
Merchants' and Manufacturers' Association.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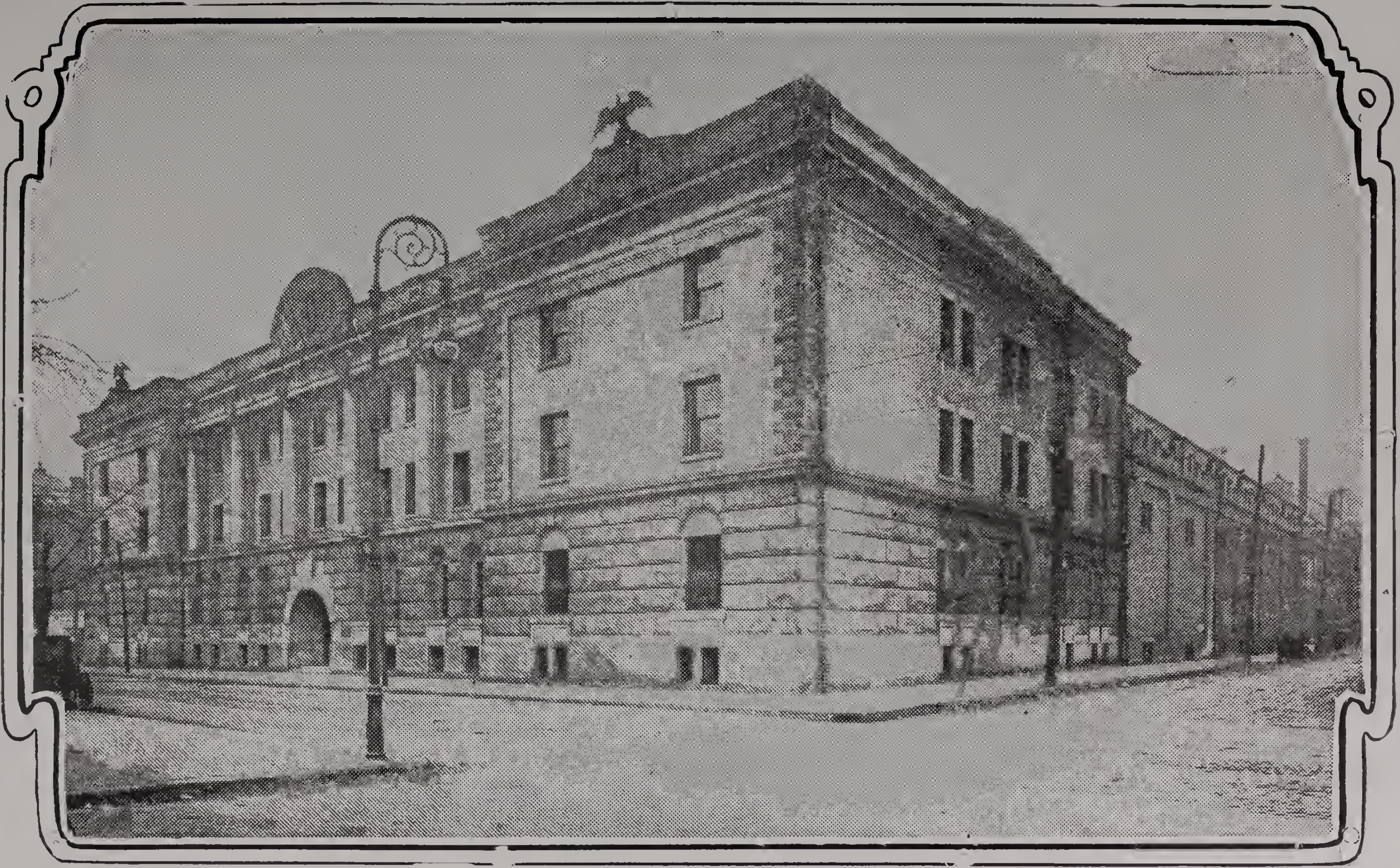

SEATING CAPACITY 16,700. BUILDING COVERS 2 ACRES.

CENTRAL SECTION OF LOUISVILLE

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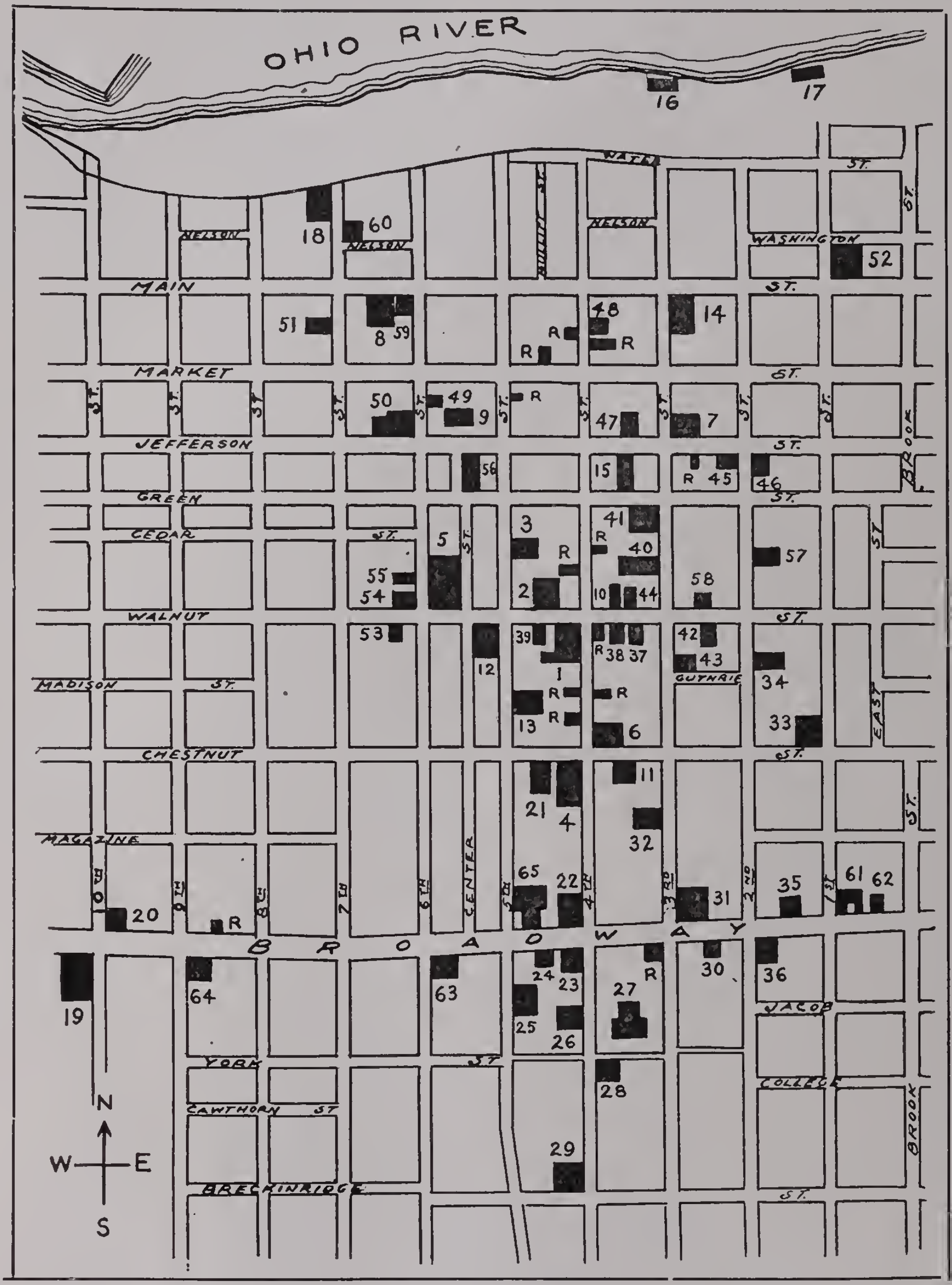

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ORIGINAL ARTICLES.

ACCIDENTAL HEART MURMURS.

By Fritz C. Askenstedt, Louisville.

While the heart murmurs of organic valvular disease are now fairly well defined in their terminology and meaning, there is a considerable lack of uniformity as to the designation of that class of heart murmurs whose pathology is still a matter of conjecture. The terms functional, inorganic, accidental, anemic are used interchangeably by some writers, while others attempt to give to each term a special significance according to their individual ideas regarding the production of these murmurs. Drummond[1] attempts their classification into "cardio-muscular or neurotypic," and "cardio-respiratory," assigning to each a separate symptomatology. Jacobi[2] proposes "accidental" for those cardiac murmurs which are dependent upon a disturbed relation between the heart and the surrounding structures, whether due to pericardial or pleuro-pericardial adhesions, or to deformities of the chest wall, and designates as "functional" all other heart murmurs that can not be explained by any anatomical alteration of a valve or the myocardium. Potter[3] groups under "accidental" all murmurs entirely independent of the valvular mechanism, relegating the murmurs of relative insufficiency to the organic category. Whittier[4], however, includes these relative murmurs under the term "accidental," while Webster[5] advocates the use of "accidental" for all murmurs not really recognized and classified as organic or exocardial. As Babcock[6] expresses it, "The term accidental implies nothing more than that the murmur is a chance result of cardiac action." Accepting this definition we will group under "Accidental Heart Murmurs" those abnormal endocardial and exocardial heart sounds, usually transient or intermittent, which are not produced by structural changes in the valves or in the pericardium and which do not show physical evidence of myocardial dilatation and hypertrophy.

The fact that these murmurs have been but briefly dealt with, or entirely ignored in our text books has led to the opinion generally entertained that their occurrence is rare, and it has fostered the unfortunate practice among many physicians of accepting a murmur as the supreme evidence of cardiac disease.

Although their frequency, as estimated by different authors, varies considerably, it is probable that accidental murmurs are of more common occurrence than are the organic. In 4300 patients examined by Potain[7] 380 presented heart murmurs, in 44 of which postmortem examination failed to show any anatomical changes in the heart. Among 184 cases observed by Mulled[7], of Zurich, 31 had been exempt from military duty in the armies of Europe on account of apparent heart disease, but in reality were found to be affected with only accidental murmurs; and he further states that he has been able to prove that the heart was sound in more than one-half of the cases which previously had been diagnosed by other physicians as mitral insufficiency. Rheiner[7], of St. Gallen, who as consultant has examined thousands of cases for life insurance, expresses himself as in full accord with this opinion. In 330 cases of pregnancy examined toward the close of the term by Link[8], 41 cases—or 12.4 per cent.—were found presenting the murmur. After delivery it disappeared in all but 3 instances. Hochsinger[9-2] is quoted as saying that anemic murmurs are very rare in children in the first four years of life, and rare up to the eighth year. This seems somewhat at variance with the reports of later investigators, who find the murmur frequent from six years up. Schlieps[10] states that a large per cent. of children under fourteen have a functional murmur. Lees[11] mentions it as frequent among healthy children. In 1906, Luthje[12] surprised the medical world by the findings of his investigations of 854 children, ranging in ages from six to twenty, and attending the public schools of Erlangen. In these children he found a systolic murmur 612 times—or in 72 per cent. —heard at times after rest, at other times only after some physical exercise, and somewhat more frequently among girls than boys. But 17 of the cases examined showed evidence of organic heart disease. In the same year a similar investigation was undertaken independently by Walter Beyer[13] in the schools of Dresden. Dr. Beyer examined 830 boys and girls from six to fourteen years of age. A systolic murmur was present in 352 of all the children examined. At the ages from six to eight, 27 per cent. of the boys and 35 per cent. of the girls, and in the class from nine to fourteen years, 48 and 56 per cent. respectively, presented the murmur. In 26 per cent. of the affected children the murmur was audible only after some gymnastic exercise. Gerhardt [12] examined a series of 134 young people, between fifteen and eighteen years of age, and discovered accidental murmurs 100 times—about 75 per cent.

The differentiation between an accidental and an organic heart murmur requires a careful consideration of the physical signs of cardiac hypertrophy and dilatation, as well as a recognition of the peculiarities of the murmurs themselves. A discussion of the physical signs of organic heart disease is not within the scope of this paper, but it seems within my province to remark that the position, size and force of the apex beat, the extent of relative and absolute cardiac dulness and the occurrence of abnormal pulsations, palpable fremitus, and accentuation of either second sound, are of far more diagnostic importance than the presence or absence of a heart murmur. But deviations from the normal standard of even these points does not always mean heart disease. A normal apex beat may be concealed by an unusually narrow intercostal space, by its position behind the fifth rib, by adiposity, by emphysema of the lungs, or displacement of the heart. A retraction of the lung will afford a normal heart—at least as normal as the pulmonary condition will permit—greater area of dulness and abnormal pulsations, while an emphsema will produce an opposite effect. An accentuation of the second pulmonary sound may occur without either cardiac or pulmonary disease, especially during adolescence[12], while its absence does not necessarily exclude an organic mitral lesion; and all sounds may be greatly modified by changes in the tissues overlying the heart. The recognition or exclusion of structural heart disease can not, therefore, be based upon a single symptom, but requires a synthetic consideration, of all the evidences, including the history of the case.

In the examination of children it should be borne in mind that until nine years of age the heart is relatively larger and the cardiac dulness extends normally to, or almost to the left mammary line. The apex beat is usually located behind the fifth rib, just below the nipple, and its detection is more readily made by palpation than by inspection.

Auscultation of the heart should be made with the patient in two postures; standing or sitting, and lying. In cases of doubt a third position, lying on the left, then on the right side, will sometimes help to clear up an obscure point. Not only does this apply, in a limited degree, to pericardial adhesions, but this lateral position will have a special influence upon the accidental murmurs themselves[14].

In the examination of heart murmurs the following features should be noted: their position with regard to the cardiac rhythm, their location, extent, quality, intensity, and constancy. Before discussing these various phases it seems best to classify all accidental murmurs into endocardial and exocardial.

ENDOCARDIAL MURMURS.

These present considerable variations. One feature common to almost all is their occurrence during the systole of the ventricles. Luthje and Beyer considered none but systolic murmurs. Associated with the cardiac murmur there was sometimes found by Beyer a diastolic venous hum in the neck, to the right of the manubrium sterni, and sometimes also to the left. The cases of diastolic accidental murmurs reported in literature are so few that we can very well afford to exclude them entirely from consideration in this paper.

The locality in which the majority of the endocardial accidental murmurs is best heard is the second left interspace, sometimes as far out as the parasternal line, Lees [11], Balfour[5]. Occasionally its maximum intensity is located in the mitral area, and more rarely in the tricuspid or aortic. In Beyer's series of cases the ratio of the pulmonary to the mitral was as 5 to 1.

The transmission of these murmurs is much more restricted than that of the average organic heart murmur. As a rule, the murmur is confined to a single area, and is never heard in the neck, axilla or back. Of Luthje's 623 cases, 564 presented a murmur only over the pulmonary artery, 45 also in the mitral area, and in 14 it was transmitted to other orifices[13].

In quality, intensity, and pitch the accidental murmurs are usually described as soft, gentle, blowing sounds of low pitch. While this is true in most instances, they are occasionally harsh, rasping and even whistling. Mackenzie says, "It is remarkable how loud and harsh the murmurs sometimes are." Barie[7] claims to have heard a murmur three feet away, and at the autopsy not the least lesion was found in the valves. Babcock[15] mentions a case, free from evidence of organic disease, with a twanging murmur of high pitch and musical quality heard over right ventricle and passing away with the subsidence of the pulse rate during the examination. Inasmuch as the pitch of an organic murmur is not characteristic, and its intensity varies with the contractile power of the heart muscle, becoming feebler with advancing dilatation, none of the above mentioned attributes possesses an absolute value in the differentiation between accidental and organic murmurs. The influence of respiration upon accidental murmurs is often marked, the expansion of the lung over the heart during inspiration perceptibly lessening the audibility of the sound.

Accidental murmurs are characterized principally by their inconstancy. A mere change in posture will often cause them to disappear entirely. Frequently the murmur is heard only during the cardiac excitement induced by nervousness or physical exercise. But this lack of stability is not usually manifested in one examination, for the murmur will often continue uninterruptedly for months and, especially in cases of marked anemia, even for years. Compared with the organic murmurs, it should be remembered that the murmur of mitral stenosis is notably inconstant—heard to-day, perhaps gone tomorrow—and that from myocardial weakness or returning compensation a murmur due to a valvular lesion may gradually pass away or reappear.

To recapitulate: the typical accidental endocardial murmur is characterized by its systolic rhythm, by the location of its maximum intensity in the left second intercostal space, by its limited area of transmission, by its softness and low intensity, by its inconstancy, and finally, by the absence of all physical signs of cardiac dilatation and hypertrophy.

Having determined the presence of an accidental endocardial murmur the question naturally arises, what physical conditions are responsible for its production?

The experimental work of Corrigan, Chausseau[5], Ball[16], and more lately, Beyer[13] have shown that the sounds produced in elastic tubes by the passage of a fluid depend on (1) sudden increase in the width of the tube, (2) the velocity of the stream, and (3) the amount of pressure exerted by the fluid upon the sides of the tube. Mere roughness of the walls of the vessel is inadequate to produce it. The essential condition is the production of eddies, in muscular dilatations, or so-called "fluid veins," a returning peripheral flow, in more uniformly dilated vessels. Strictly considered, it is incorrect to speak of a murmur of stenosis, because a uniform narrowing not ending abruptly in a wider lumen, is incapable of producing the eddies necessary for the production of a sound. The murmurs of stenosis and of regurgitation are the result of the disproportion between the orifice and the cavity beyond it. A contracted orifice with a normal cavity, or a normal orifice with a dilated cavity, offers the conditions required for the production of a heart murmur. Musical murmurs due to aberrant cords or bands in the heart cavities are probably also examples of sound production by eddies.

Various hypotheses have been advanced to account for the development of accidental murmurs, only a few of which will be mentioned.

Quincke[5] assumes from the examination of six cases with pulmonary murmur and perfectly sound hearts, that owing to retraction of the lung from the base of the heart, the pulmonary artery is pressed abnormally against the chest wall with the production of "fluid veins" during systole.

Goodheart[5] and Rudolph[7] account for the murmur by supposing that the base of the pulmonary artery is morbidly dilated beyond the caliber of the orifice.

Foville[2] offers cardiac spasms in explanation of the production of the murmurs.

Russell[6] attributes them to narrowing of the pulmonary artery through pressure upon it of the dilated left auricle.

Link[8] believes that accidental murmurs during pregnancy are due to an upward displacement of the heart, with kinking of the arteries.

Herz[14] cites the abnormally vertically placed heart in narrow chested individuals—the so-called "Tropfenherz"—as the cause of the murmur in certain patients. He points out that this abnormal position causes the force of the bloodstream to deviate from its normal line as it passes into the blood vessels.

But none of these theories has met with much favor, and the matter of etiology and pathology still remains an open question.

There is, however, a growing disposition to regard the murmur as a manifestation of impaired general health, with local disturbances of a functional character. The murmurs may occasionally be found among the apparently healthy, but their prevalence among individuals of lowered vitality has long been recognized. Sansom noticed a marked predisposition in these patients to tuberculosis, and only 15 to 20 per cent. of his cases reached adult age. Anemic patients, especially, have been found with venous and accidental murmurs, in such cases commonly referred to as anemic murmurs. That this designation is incorrect is proven experimentally by Thalma who produced artificial anemia in dogs without obtaining murmurs. Moreover, clinically the most pronounced cases of anemia will sometimes run their course without a heart murmur. The relation of accidental murmurs to anemia must, therefore, be only an indirect one. Winckler[5] succeeded in producing systolic and diastolic murmurs over the mitral valve by impeding the action of the papillary muscles without injury to the valves, as shown by autopsy; and Fenwisk and Overend[18] demonstrated that the papillary muscles show fatigue quicker than any other part of the myocardium, thereby giving rise to certain cardiac murmurs.

This theory of muscular fatigue, or deficient tonicity, leading to mitral or tricuspid regurgitation, is at present most generally accepted, although the particular part of the myocardium chiefly responsible for the disorder is still a matter of controversy.

Henschen[19], with Balfour and Immermann, advocates that all endorcardial functional murmurs are due to cardiac dilatation, with relative insufficiency of the mitral or tricuspid valves. He believes that all heart murmurs are associated with dilatation, though every dilatation does not give rise to a heart murmur; if a hypertrophy corresponding to the dilatation has developed, no murmur results.

Mackenzie[20] discounts the idea of simple dilatation by saying, "we may have considerable dilatation without a murmur. Again we may have very little dilatation with marked systolic murmurs at apex and base, and with a great regurgitant wave in the veins." He attributes the murmur to a loss of tonicity of the muscles supporting the auriculo-ventricular orifices, giving rise to regurgitation.

Whether, in the absence of coronary sclerosis, one part of the musculature of the ventricle is more susceptible to loss of tone than another, or whether all parts of the muscle suffer equally must be left for future research. The central idea of the above authors is the same, mitral (or tricuspid) regurgitation, and this seems to afford the best explanation, from a clinical standpoint, of the character and behavior of accidental murmurs. Their usual low tensity is a result of the weakness of the cardiac muscle, and accounts for its disappearance during the expansion of the overlying lung. The development of the murmur by exercise, nervous excitement or pregnancy is to be attributed to increased strain upon the myocardium. The secondary pulmonary sound is not accentuated because there is no increase in blood pressure in the pulmonary circulation. The location of the murmur in the second left interspace is due to the natural transmission of the murmur with the blood current into the auricle. (In this connection it may be suggested that the murmur of mitral regurgitation is frequently heard best in the pulmonary area, but when the regurgitation is attended with much hypertrophy of the ventricle the increased tension of the chordae tendineae and papillary muscles conveys the virbations more readily to the apex).

Hypertrophy and dilatation being relative terms, we are led to infer that accidental insufficiency and so-called "relative insufficiency" with hypertrophy, both regurgitations being caused by a disproportion of the blood pressure and the integrity of the myocardium, differ in degree only. It may seem unjust, therefore, to relegate the murmur of "relative insufficiency" to the organic murmurs by the physical signs of hypertrophy, but the greater constancy of this insufficiency, its frequent association with valvular disease, and the difficulty of a clinical discrimination between these two, makes it advisable to exclude all murmurs attended by the physical signs of dilatation and hypertrophy from the accidental class.

Again referring to the myocardial theory, it is not expected that this or any other will satisfactorily explain all cases reported. Errors of observation, clinical or post-mortem can not always be excluded and atypical cases occur in any disease. An anatomical deviation easily overlooked at autopsy, such as a slightly anomalous location of one or more of the chordae tendineae or an aberrant cord, which in an otherwise normal heart may be inadequate to produce a symptom, can under the altered conditions of an accidental regurgitation proved a modifying element in the clinical aspect of the case. Such cases of freak anatomy, developing musical murmurs just before death, are reported by H. F. Lewis[15], and the possibility of other complicating anomalies in atypical cases must be considered. Finally much confusion has existed, and to some extent still exists. regarding the differentiation of endocardial from exocardial murmurs. Potain believed all accidental murmurs to be exocardial in origin, and the similarity of symptomatology and behavior of these two classes of heart murmur is occasionally so close as to confuse the very elect. It is this intimate relation which makes it seem best to include under accidental heart murmurs certain cardio-pulmonary sounds of a transient character.

EXOCARDIAL ACCIDENTAL MURMURS.

As already indicated murmurs due to structural changes as pericardial and pleuropericardial adhesions are excluded, and we shall consider only such as resemble the endocardial type by their inconstancy. Besides their tendency to come and go, they simulate the endo-cardial murmurs in being almost always systolic in rhythm. The most distinguishing feature of the cardiopulmonary murmur is its cessation during suspended respiration.

The following differential symptoms will prove of value:

ENDOCARDIAL.

Intensity of murmur increased with *expiration*.

Usually heard best in area of pulmonary valve. Murmur limited to a small area.

Usually influenced by posture of patient.

Often influenced only after exercise.

Occurs most frequently in anemic girls near puberty.

EXOCARDIAL.

Intensity increased, or murmur present only, during *inspiration*.

Position of maximum intensity variable.

Heard extensively over heart and lung, sometimes in axilla and back.

Not influenced by posture. (Putnam).

Exercise without perceptible influence. (Putnam).

Most frequent in neurasthenic narrow-chested individuals.

The murmur consisting of a cardiac and a pulmonary element shows some variation in different parts of the chest. Over the apex or body of the heart the cardiac element makes the strongest impression, while over the base of the heart or more fully over the lung the murmur is more like an interrupted inspiration. Not infrequently cogwheel breathing will be heard in some parts of the lung.

Schlieps[10] believes the murmur to be of rather frequent occurrence, and that it originates in the lung as this accommodates itself to the changing size of the heart in systole.

Benedict[21] describes a crunching systolic cardio-pulmonary murmur heard in cases of ascites, distension of stomach or intestine, which conditions were believed to induce the murmur by tilting the heart upwards and to the left, thereby forcing it against the lung tissue.

Francois-Franck[5] demonstrated that the processus lingualis of the lung when compressed or made to slide by the movement of the heart produced a murmur which he asserted to be identical with all accidental endocardial murmurs.

Putnam[22], of Boston, in a carefully written paper, shows that the cardio-pulmonary murmur is infrequent in non-neuropathic cases —about 1 per cent in men and 2 per cent. in women—but comparatively frequent in neurasthenic, narrow-chested individuals subject to Glenard's disease, especially if these patients be men. The similarity of the cardio-pulmonary murmur to cogwheel breathing, their frequent association in neurasthenic subjects, and the influence of nervous excitement on the murmur, which may come and go during an examination, suggest to Dr. Putnam an etiological relationship, dependent upon the innervation of the heart and arterial system. He points out the normal nervous influence upon the heart of inspiration and expiration, and from this infers that the murmur is a result of a damage to the regulatory mechanism governing the tension of the lung or of the blood vessels, the mutual relation of which may be deranged by various nervous disturbances.

The purpose of this paper has been to suggest the importance of intelligent and scrupulous care in the examination of the heart conditions, not alone for the gratification of the physician himself in his effort to obtain a correct diagnosis, but as well for the convenience and piece of mind of the patient. From the above reports it will be seen that research has brought to light the fact that accidental murmurs are of much more frequent occurrence, especially in later childhood, than was formerly supposed, and that through lack of familiarity with the character and nature of these murmurs physicians often bring upon their patients the handicap of fancied invalidism. It is doubtless true that applicants for life insurance are all too frequently rejected unjustly because of a murmur which when properly investigated would prove accidental. And, finally, in the treatment of these cases discrimination can not be too carefully practiced since in accidental murmurs the cause is systemic, and the remedies, as well as adjuvant measures should be directed to the general ill-health rather than to its local manifestations.

REFERENCES.

1. *The Lancet*, July 27, 1895. Reviewed by *Hohnemannian Monthly*, December, 1895.
2. *Boston Med. and Surg Journal*, Sept. 1899. Functional Cardiac Murmurs." A. Jacobi, New York.
3. Sahli's Diagnostic Methods of Examination. Potter.
4. *Twentieth Century Practice*, Vol. IV, Page 298. Whittaker.
5. *Jour. Am. Med. Assn.*, July 22, 1899. "Accidental Heart Murmurs." Geo. W. Webster, Chicago.
6. Diseases of the Heart and Arterial System. Page 27. Babcock.
7. *Ueitschrift Fur Versicherungsmedizin*, 1909, p. 97-98. "Abnorme Herzgerausche bei gesundern Herzen." Dr. G. Rheiner, St. Gallen.
8. *Munchener Medizinische Wochenschrift*, April 14, 1908. Reviewed by *Jour. Am. Med. Assn.*, May 23, 1908.
9. *Le Settimana Medica*, No. 22, 1898. Reviewed by *Hohnemannian Monthly*, Sept. 1898.
10. *Jahrbuch fur Kinderheilkunde*, Berlin, Sept. 1912. Reviewed by *Jour. Am. Med. Assn.*, Oct. 26, 1913.
11. Editorial *Hahnemannian Monthly*, March, 1902.
12. *Munchener Medizinische Wochenschrift*, April 9, 1907. Proceedings of Aertlicher Verein in Frankfurt, A. M. Dec. 17, 1906.
13. *Untersuchungen uber dae Haufige Vorkommen von systolischen Herz-Gerauschen bei Kindern*. Dr. Walter Beyer.
14. *Medizinische Klinik*, 1908. "Uber das Verhalten systolischer Gerausche bei Lagewechsel." Dr. Max Herz.
15. Diseases of the Heart and Arterial System, p.p. 32-34. Babcock.
16. *N. Y. Medicol Record*, 1994, p.p. 393-398. Brayton Ball, M. D.
17. *Am. Journ. Med. Sciences*, Sept., 1911. Reviewed by *Jour. Am. Med. Assn.*, Oct. 7, 191.
18. "The Condition of the Myocardium as Affecting Endocardiac Murmurs." H. D. Arnold, M. D., Boston
19. *Deutsche Medizinische Wochenschrift*, Sept. 2, 1908. "Uber systolische funktionelle Herzerousche." Prof. S. E. Henschen, M. D., Stockholm.
20. Diseases of the Heart, page 198. Mackenzie.
21. *Archives of Diognosis*, Oct. 1910. Reviewed by *Jour. Am. Med. Assn.*, Dec. 17, 1910.
22. *Moston Med. and Surg. Journ.*, July 2, 1903, pp. 8-10. "The Clinical Associations and Significances of the Cardio-Pulmonary Murmur." James J. Putnam, M. D., Boston.

DISCUSSION.

Wm. A. Jenkins: The essayist's resume of the extensive literature on the subject of accidental heart murmurs certainly tends to prove one thing; namely, that there is no definite, well made out basis of the etiology of such conditions in every case, or even in the majority of cases. Every physiologist or clinician of note has a theory of his own as to the causation of these so-called accidental, or inorganic murmurs, and there are many points to support each of these theories to be found in any given series of cases. Certainly, then, until we can discover a definite basis for the etiology of these murmurs, we cannot make any clean-cut definite classification.

I believe, as Dr. Askenstedt has said, that accidental heart murmurs occur much more frequently than the average practitioner dreams of. Men who have had opportunities for examining large numbers of children in institutions all over the world, tell us that haemic murmurs are present, at some time or other, in from 25 to 40 per cent. of all children between the ages of 6 and 20 years. The only point upon which all observers agree is that, for a murmur to fall into this specific class of cases, any demonstrable or discoverable organic lesion of the heart must be first excluded. Therefore, it is well to bear in mind the chief characteristics of accidental heart murmurs. They are always, lessened in intensity, soft and blowing in character, almost invariably systolic in time, heard first, as a rule, at the ostium pulmonalis. The apex beat is in the normal situation, the second sound is not accentuated. We will find that these murmurs vary from day to day, sometimes heard and sometimes absent. They also vary under other circumstances, such as exercise and excitement. Lastly, they are commonly associated with impoverished health, backward development, anemia and nervousness.

The chief point of interest to those who practice medicine in the field every day is this: We must examine with great care in order to determing whether a given heart murmur belongs in this class of cases, or whether it is an organic murmur, because, as the essayist has indicated, we may do great harm by subjecting an individual with a functional murmur to the str.ct dietetic, hygienic and medicinal regime that would be absolutely necessary in the presence of an organic murmur. I think perhaps the majority of us are too hasty in drawing conclusions; we do not make repeated examinations, extending over a considerable period of time, before making a definite statement. We are too anxious to make the diagnosis, and we would be more accurate in our prognoses, and better satisfy both our patients and ourselves, if we would take the time, in every case, to make a thorough detailed examination to determine whether the murmur should be classified under the functional group or the organic group. If the murmur is organic, it means one form of treatment, one method of management and one prognosis, but if it is of the functional type it requires another and entirely different form of treatment and management, and has an entirely different outcome.

Edw. Speidel: On several occasions I have noticed, in pregnant women, that during the period of gestation the patient would present a well marked mitral murmur, heard at the typical location, and that at the time of delivery this murmur would be especially noticeable during labor pains. In such cases, if chloroform was used during the second stage of labor, cyanosis would at once become evident, and in consequence it was necessary to deliver these patients without anesthetic. Fortunately, however, in these cases delivery is usually rather easy, contrary to some of the text books. During the first few days of the lying-in-period, the murmur would still be perceptible, but after a few weeks it would disappear entirely. These patients do not show a heart lesion when in a non-pregnant condition, and I would like to ask Dr. Askenstedt whether this type of murmur would come under the head of accidental murmurs.

F. C. Askenstedt, (Closing): Judging from the reports of Benedict and Link there seems to be a difference of opinion as to the causation of murmurs in pregnancy. In the case referred to by Dr. Speidel, the murmur was undoubtedly accidental, coming and going as it did, with no evidence of an organic lesion such as hypertrophy or dilatation. Possibly some are brought about by increased tension. High blood pressure, for instance, might cause a dilatation and bring about a relative insufficiency, giving rise to a murmur at this particular time. On the other hand, according to Benedict's theory, the heart may be pressed up and to the left, and in that way cause a cardio-pulmonary murmur by its action against the lung tissues. In such instances you will find that the murmur ceases on suspension of the breathing or increases on inspiration. I am quite sure, from what Dr. Speidel said ,that the murmur belongs to the accidental type.

SURGICAL · TREATMENT OF PYO-SALPINX.

By Simrall Anderson, Louisville.

Among diseases of the Fallopian tubes, that due to an accumulation of pus should have first place. Gonorrhoea and septicemia are certainly the chief causes, the latter usually occuring after abortion; seldom after labor at full term. There is nothing more strikingly illustrated in the treatment of any disease than the fact that these women who formerly were treated upon the expectant plan, or condemned to a state of chronic invalidism, or to a lingering and painful death are now easily and completely cured by the help of surgery.

There are two methods of surgical treatment of these conditions which share the approval of operators; the abdominal and the vaginal. The latter, however, has been almost completely abandoned at the present time, now only being practiced in exceptionally acute cases, where temporary drainage of an extensively distended and infected tube is necessary owing to the extreme weakness of the patient.

The difficutly of operating for pyosalpinx is far greater than operating for simple catarrhal salpingitis; the danger of rupturing a tube full of septic pus while freeing adhesions calls for the utmost precaution and skill, the more experienced and apt operator being able to remove tubes greatly distended with pus without rupture, with little trauma, and slight risk, whereas the less experienced operator's operation, aside from rupturing such tubes, will be followed by extensive parenchymatous ooze necessitating drainage of the cavity which we always and constantly aim to avoid.

We of course operate on cases of many different degrees, and many and varied pathological conditions are encountered. First, we find cases where the disease has only involved one side, the opposite appendages not being enough diseased to require removal. All such cases should be treated as conservatively as possible, never sacrificing healthy ovarian tissue, ever bearing in mind the importance of preserving the reproductive function and, of paramount importance, the prevention of post-operative nervous phenomena which the forced menopause sometimes brings about.

Next we have the class of cases where, after freeing the adnexa, we are able to leave a uterus slightly if at all damaged, one in which all raw surfaces can be covered in by peritoneum (and in every salpingo-oophorectomy when the disease is so far advanced as to sacrifice tubes and ovaries in whole or in part we ought to always remove the tubes as far in as the uterine cavity by incising the uterine tissue.) Such a uterus being the site of only slight inflammation will usually undergo atrophic changes and give rise to no further trouble.

This atrophy, however, does not always occur, frequently failing to follow; or, if it does so, fails to remove the infection, the remaining uterus giving rise to pernicious menstruation and even hemorrhage, leaving the patient with chronic endometritis, causing a profuse uterine discharge which, being a constant source of irritation and annoyance, destroys the patient's resistance to disease and leaves her with a group of nervous symptoms which for a considerable length of time are very, very annoying, often entirely incurable except by secondary operation. It is in this class of cases where hysterectomy (not necessarily pan-hysterectomy unless complications demand) is the ideal, best and safest operation since in nearly all such conditions the uterus is necessarily infected and even after removal of the appendages the causative infection still remaining may spread to the peritoneum endangering post operative cystic peritonitis.

It has been my experience that the secondary and permanent results of hysterectomy in such cases are far more satisfactory, the nervous symptoms not nearly so annoying, almost always being absent, and post operative painful adhesions entirely eliminated.

I do not believe shock is any greater, the operation is quite as quickly and sometimes more easily carried out, especially in cases where adhesions are extensive on the posterior surface of the uterus and both adnexa and uterus are removed together.

In order to be brief in this report I have picked out but two typical cases from my work in order to verify the preceding remarks.

CASE I.

Mrs. B., age 28, mother of one child, no history of gonorrhoea, one miscarriage at which time patient presented usual symptoms of acute pelvic cellulitis, operation four months later revealed two large adherent pus tubes, uterus much enlarged, double salpingo-oophorectomy with drainage through Douglas cul-de-sac, patient recovered and returned home in three weeks, she, however, returned about six months later with persistent uterine discharge, profuse menstruation, severe pain and nervousness; secondary operation with removal of uterus brought about a complete and rapid recovery, which also relieved the nervous phenomena.

CASE II.

L. D., mistress, age 23, had gonorrhoea three or four times, three miscarriages, diagnosis of gonorrhoeal pyosalpinx made one year previous to operation at which time patient was confined to bed and remained there for five months, at time of operation two very densely adherent tubes and ovaries were freed and removed, no drainage used, patient returned home on the fifteenth day apparently recovered, menstruation, however, never ceased, occuring as before operation, pain being constantly present so much so that the patient submitted to secondary operation three months after; the uterus, although having undergone slight atrophy was enlarged and presented many adhesions, removal relieved her completely.

DISCUSSION.

Leo Bloch: I believe we will all agree that an acute case of pyosalpinx is not a surgical condition, and we have learned that the use of vaccines in such cases, especially gonorrheal infections, will make the patient comfortable until she has reached the stage where an operation can be safely done. However, in chronic cases, I believe operation is the proper thing.

I disagree with Dr. Anderson in regard to removing the uterus. If we will remove the tubes, going deep down into the uterine tissue, it will not be necessary to remove the uterus unless it is actually involved. I believe the uterus should be left in situ when possible to do so, and thus prevent the hernial sac that so often occur.

I have found that one of the most troublesome conditions following hysterectomy is prolapse of the bowel, coming down through the vaginal wall and making the patient very uncomfortable. Of course if the uterine tissue is diseased it should be removed, but in the average case of salpingitis I believe the less uterine tissue we sacrifice, the better it is for our patient.

M. Casper: I have enjoyed the essay very much, and I agree with nearly everything the doctor has said. Of course, none of us operate on acute cases of salpingitis now; we have become more conservative. Many of these cases get well without operation.

In regard to removal of the uterus, I am perfectly in accord with Dr. Anderson in the statement that all diseased uteri should be removed. Of what use is the uterus after the tubes have been removed? There is no chance for impregnation. If the stump of the cervix is tied up with the broad ligament in the proper way, there is very little danger of secondary herniae. I have not seen a hernia since I have been doing the operation in this way.

Cases of gonorrheal infection should all be given the benefit of vaccine treatment, which has proved satisfactory in the hands of many men. In mixed infections (and I believe the majority of cases of salpingitis are of this type) the bacterin treatment has given very satisfactory results.

Many of these cases have existed until complications have developed that make operation difficult, but when seen early they are easily handled. One of the important questions to consider in deciding whether or not to operate, is "What complications will develop if the condition is allowed to go on?" Just as in appendicitis, we cannot tell what complications may arise. Therefore, each case must be a law unto itself, and we should carry out the procedure we believe to be indicated by the condition present.

Simrall Anderson, (Closing): Referring to Dr. Bloch's remarks in regard to hernia, I wish to say that I have never seen hernia following a hysterectomy where supravaginal amputation of the cervix had been done; in fact, this operation is more highly recommended than any other for the relief of prolapse of the uterus with cystocele and rectocele. We can pull the broad ligaments together and stitch them, and have a better pelvic floor than we can secure in any other way.

I wish to thank the gentlemen for their discussion.

SUPPURATIVE OTITIS MEDIA.

By John R. Wright, Louisville.

Suppurative otitis media may be divided into three forms, acute, sub-acute and chronic. The acute type of inflammation of the middle ear, is characterized by marked hyperemia of the mucous membrane of the middle ear, including the inner wall of the drum-head. This may be followed by pain and perforation of the drum-head, through which the pus discharges into the external auditory meatus.

The function of the Eustachian tube is twofold; first to ventilate and second to drain the tympanic and mastoid cavities. It being the chief source of communication between the epipharynx and the middle ear, it is plain to see how easily it is to have a pathogenic microorganism carried into the middle ear following an acute or chronic rhinitis, while in many of these cases, the inflammation may remain acute catarrhal until the drum is ruptured and then become suppurative due to infection from the external ear.

Age has a direct influence, a large majority of cases being in children. Yet it occurs in all ages.

Generally the disease is a result of cold or traumatism, or it may occur as a complication during diphtheria, scarlet-fever, small-pox, measles, pneumonia, typhoid, adenoids, epipharyngitis and inflammation of the tube, enlarged or inflamed tonsils, acute or chronic rhinitis.

Those cases occuring independently of any other disease are usually unilateral, while those occurring in connection with scarlet fever, diphtheria, measles, epipharyngitis and adenoids are usually bilateral.

Any constitutional disease that lowers cell resistance predisposes to suppurative otitis media.

Duel arrives at the following conclusions in reference to the relation of the infectious fevers to acute suppurative otitis media, his conclusions being based upon a study of 6,000 cases of scarlet fever, measles and diphtheria, in the Willard Parker Hospital: acute purulent otitis developed in about 20% of scarlet fever cases, in about 10% of diphtheria cases, and about 5% of the cases of measles. There were 26 mastoid cases, two in measles, two in scarlet fever and about twenty in combined scarlet fever and diphtheria. Two were complicated with thrombosis of the lateral sinus.

If we get 20% in hospital scarlet fever cases it must be far greater in the homes, and with the slipshod way that many receive treatment and care.

The first symptom generally complained of is a severe headache, a feeling of heaviness in the ear, followed by pain of a piercing, boring, throbbing character; and is generally more severe in children than in adults. We have the bulging of the drum, chilly feeling, the temperature at the onset is elevated from 1 to 3 degrees F. In very young children it is not uncommon to have convulsions.

In acute cases there is very little relief obtained until the drum-head is lanced, or nature in her mad efforts to give relief pushes her way through the drum and relieves the tension. The patient finds much relief from the instant drainage established, the temperature drops perceptibly and the patient is ready for the much needed sleep. Permanent relief does not always follow, however, the mastoid cells and antrum may also contain pent-up secretions which often give rise to pain, elevation of temperature in spite of the lowered tension. This often means a long continuance of the trouble, frequently a mastoid operation, sometimes facial paralysis with an occasional trigeminal neuralgia.

The general hyperaemic condition of all the structures frequently gives us a badly damaged ear.

The hearing is impaired somewhat in proportion to the amount of congestion and secretion present. The deafness, which at first was slight, may become quite pronounced.

In scarlet fever and diphtheria infections involving the labyrinth, the deafness may be profound. Cleanliness and drainage should be taken care of, aseptic treatment should be used so as to prevent a mixed infection as far as possible. I frequently use this: phenol, chloral hydrate and camphorae aa, gr. xx to the ounce of ol. olivae with directions to warm and fill the ear. Often a 10% solution of phenol in glycerine. These drugs reduce the edema of the mucous membrane, helps to control the pain and facilitate drainage, and are strong antiseptics. Ice packs for a few hours will often relieve pain, but should not be used long at a time. Hot applications often give relief and help the drainage.

If the secretion is thick and tenacious the syringe may be used to remove it. A sterile alkaline solution may be used for this purpose. I give preference to a cotton-wound probe (tooth-pick).

Free open drainage is the point sought for. Beck's method of packing never appealed to me, as you cannot see the patient often enough to change the packing, and to leave it to them is a dangerous proceeding. Leeches may give some relief. If there is a tenderness over the mastoid, I use a 50% solution of guaiacol and olive oil; a warm alkaline wash in the nose and throat has some effect. Calomel is indicated in all cases; supportive treatment should be followed up.

In sub-acute or chronic suppurative otitis media, I frequently use a 50% solution of alcohol. This gives some pain but the results seem to justify the discomfort. For the last thirty days I have been using a considerable amount of phylacogen with good results in some cases and improvement in all cases. Some report good results from the vaccine, while others say they get no results.

In our chronic cases we must study each case as it comes before us, as the morbid condition of each will depend upon their locality.

In local treatment, remove and cauterize the granulations. Alcohol, tr. benzoin comp. and dry powders, with constant use of a cotton applicator, will help a great deal.

The removing of adenoids, when present, is absolutely essential. Tonsils, if large or diseased should be removed. Should the discharge be persistent and fetid it may be necessary to do a radical mastoid operation.

These points I wish to impress, and I believe every ear man here will support me. That is: every neglected case of suppurative otitis media, either acute or chronic, is the foundation for impaired hearing for the future.

May we all take more interest in this important subject and not be satisfied with the relief of pain.

DISCUSSION.

Wm. Cheatham: As my own management of middle ear trouble, especially acute cases that have not gone on to suppuration and perforation of the ear drum, seems to be different from that advocated by most of the text-books as well as by the men who read papers, it may be interesting to outline it.

Attention to the throat and nose is very important because that is where the infection comes from, and we must get rid of it by sprays and local applications. When I am called to see a case of so-called ear-ache, or acute suppuration of the middle ear, I rarely find it necessary to puncture the drum, but depend upon douching with water at a temperature of about 110, and if necessary the local application of atropia, morphin and cocain sometimes with the addition of adrenalin. The books tell us that when we find the posterior superior canal dropping down, the drum should be incised. I see many such cases, but I rarely make an incision in the drum. The application of moist heat is an excellent measure, although it is difficult to tell when to stop it, because if we keep it up too long, either the primary trouble is continued or a condition develops that gives us exactly the same appearance as the original trouble. In several cases in which the application of moist heat was kept up as long as ten days, I have noticed that the ear presented almost exactly the same appearance as when I first saw it.

In older patients my experience has been almost unique. I see a good many cases of acute and chronic suppuration of the middle ear, and I have not done a mastoid operation in a year; in fact, I will not average five mastoid operations a year. Most of my cases get well before reaching the stage where a mastoid operation is indicated. I have had no deaths in these cases and I have not heard of any of my friends here operating upon patients that I had treated.

For the application of heat I use an electric pad. Moist heat is better than dry heat, and for years I have employed the method of saturating a little surgical cotton with warm water covering it with silk and applying the electric pad over that.

The books also tell us that when the discharge from the ear has continued for three or four weeks, the mastoid is involved and operation should be done immediately. That is not correct I am sure. Some time ago I had occasion to do a mastoid operation in a neighboring town and while there I learned that a local surgeon had twenty-two mastoid cases in the hospital, and nearly as many cases of suppuration of the antrum and frontal sinus. He is to all appearances a capable man and I have no comment to make on his cases. I simply give it as my experience that I have rarely found it necesary to open the drum or do a mastoid operation.

Adolph O. Pfingst: Just a word in regard to the statistics quoted by Dr.Wright; namely, that Dual, of New York, found that 20 per cent. of his cases of middle ear disease were brought about by scarlet fever, 10 per cent. by diphtheria and only 5 per cent. my measles. I believe it is a fact that has been conclusively demonstrated that pathological examination of the .middle ear in every case of death following measles will reveal the presence of pus, whether the individual had exhibited symptoms indicating middle ear involvement or not. I believe we all agree that middle ear involvement in measles is an infection per se, while in scarlet fever it is usually an extension of the scarlatinous infection from the nose and throat, and, therefore, makes its appearance later in scarlet fever than in measles.

Cases of middle ear involvement in scarlet fever are among the most stubborn that we are called to treat. They seem to run a protracted course in spite of any form of treatment. The discharge excoriates the skin and mucous membrane around the nose and mouth, the patient emaciates and a certain percentage of these cases will die. On one occasion I found it necessary to do the matoid operation on both bones at the same time on a child in whom the condition had developed from a case of this kind.

The middle ear troubles that we see at this time of the year are mostly due to grippe, influenza and coryza, or "colds" as they are called, in addition, of course, to the other causes that the essayist has mentioned.

Adenoids and tonsillar conditions are not in themselves causes of middle ear trouble; they are simply predisposing factors. The child, or adult, with normal nasal passages is far less liable to middle ear involvement than one whose nasal passages are obstructed.

As to the diagnosis, it is at times very difficult to diagnose pus in the middle ear, especially in children. Redness of the drum is not a constant symptom and we have all made the mistake of saying that a child's drum membrane was normal, only to hear, six or eight hours later, that it had ruptured spontaneously. Dullness of the drum is a symptom of importance. In children the parts are so elastic that we cannot arrive at any definite conclusions from the absence of pain, or bulging of the membrane. In adults there is usually enough redness of the drum to enable us to recognize that an inflammatory condition is present.

As to differentiating between suppurating and serous inflammations, I do not believe we can draw a sharp line of distinction between the two. In the beginning most of them are serous inflammations and after a while pus forms. Even in those cases where there is bulging of the drum and elevation of temperature, and we incise the drum, the discharge is at first serous, finally becoming yellow and purulent. I do not remember having incised a drum and seeing thick, creamy pus flow from the middle ear; it is nearly always a watery, slightly colored discharge, which finally becomes yellow and purulent.

I believe we will all agree, in a general way, with the treatment outlined by Dr. Wright. Some prefer cold and others hot applications, but in my experience the patient is made more comfortable by the application of heat. The suggestion in regard to keeping the nasal passages open is a good one. A weak adrenalin solution (1-10,000) in a warm spray will help to keep the nasal passages open and thus add to the comfort of the patient.

The question whether or not we should do paracentesis in these cases is an important one. I believe there are distinct indications for the operation but, as Dr. Cheatham intimated, it has been preached to such an extent that many have been led to believe that it should be carried out in every case of middle ear trouble, which, of course, is not true. Most of us, I believe, are guided by the amount of pain the individual is suffering. In the presence of a red ear drum, slight pain and very little elevation of temperature, I do not believe any one would incise the drum, but marked pain, redness, and considerable elevation of temperature, are, in my opinion, positive indications for incision of the drum and evacuation of whatever may be behind it.

Gaylord C. Hall: In confirmation of what Dr. Pfingst has said, as to the relative frequency of middle ear involvement in measles, scarlet fever and diphtheria, Dr. Morse, in a paper read before the American Otological Congress, gave figures showing that, in the Children's Hospital in Boston, middle ear involvement following measles was present in 100 per cent. of cases. He did not mean that all of them went on to active inflammation, followed by suppuration, but simply that the middle ear was in some degree involved in every case of measles. As a matter of fact, in the figures given as to suppurative inflammation and mastoid involvement following each of the three diseases, measles stood the lowest and diphtheria second, but the cases of middle ear involvement with mastoid complications following diphtheria were more frequently fatal than in even scarlet fever, which was second in the frequency of middle ear involvement.

Regarding indications for incising the drum, I think Dr. Cheatham's experience is somewhat unusual. There is a well defined type of cases that is not responsive to any form of treatment, and in such cases I believe we will all agree that the proper procedure is to incise the drum. Under this treatment the patient will make a more speedy recovery, with a better chance of full resoration of hearing than if we allow the condition to drift along to a subacute or chronic stage, necessitating a long and tedious course of treatment. I do believe, however, that some men are altogether too prone, not only to incise the ear drum, but also to do mastoid operations.

There are two things I wish to mention in connection with the treatment. First, if the general practitioner, who, as a rule, sees these cases before they have developed ear symptoms, would pay more attention to the hygiene of the nose, we would have considerably fewer cases of middle ear involvement.

I do not know of anything that gives us better result in catarrhal conditions than the instillation of argyrol. In my experience, warm douching and particularly the use of atomizers have not proven efficacious. I believe more can be accomplished with an ordinary medicine dropper, putting the head well back and allowing the solution to trickle in. Saline solution with the addition of adrenalin is of benefit where the nose is obstructed, and after the cavities have been cleaned, the gentle instillation of a drachm-to-the-ounce solution of argyrol, to be repeated three times a day, is very beneficial.

One very nice result that I have had the opportunity of seeing recently, was the rapid closure of a drum perforation, with an infected middle ear, following the application of Heath's blistering fluid, which he uses not only as a means of closing openings in the drum membrane but also to relieve deafness. In the case mentioned, one application of the blistering fluid caused the membrane to heal within a period of four days.

Wm. Sanders: The general practitioner sees most of these cases of middle ear involvement before the specialist does, and I wish to mention one method of treatment that I have found efficacious in three instances. After employing pracically every form of treatment that has been mentioned here to-night, including drainage (which Nature did for me), in each of these cases I gave nuclein for a few days and then administered one dose of mixed bacterial vaccine, and in each instance the pain, discharge, redness and swelling disappeared within a period of from 48 to 72 hours.

As stated, I have done this three times; keeping the ears and nose clean, and the bowels moving, and then the nuclein followed by the administration of one dose of mixed bacterial vaccine, with a perfect result in each case.

W. D. Levi: I would like to make a few points concerning the bacteriology of the middle ear.

Hasslaner of Nurnberg, Tufal, Ernst and others have determined, by bacterial examination at autopsy, by experimentation on the living and by research on lower animals, that the normal tympanic cavity harbors pathogenic bacteria soon after birth. These bacteria they maintain, remain quiescent until some infectious or constitutional disease, by lowering the resistance of the tympanic tissues and disarranging the air and lymph currents of the tympanum and tube, incites multiplication. This viewpoint is accepted by most otologists.

The middle ear by continuity of mucous membranes is a ramification of the respiratory tract. We can hardly conceive of a sterile respiratory mucous membrane. The adult eustachian tube is about 1 1-4 inches long and 3-16 inches in circumference while in the child it is much shorter and larger circumferentially. Infection can take place through the tube by continuity of inflamed mucous membrane and by compression of air in the pharynx which diverts pus laden mucous into the ear in sneezing, improperly blowing the nose, paroxysmal coughing, vomiting, forceful spraying and douching the nose.

Over twenty bacteria have been found in primary otitis media. Most of these are rare. Some four or five of the most common forms produce otitis of characteristic clinical courses. The surgeon who identifies the bacterium in each case has a great advantage in prognosis and treatment.

Jno. R. Wright, (Closing): I certainly appreciate the discussion that this paper brought out.

I believe in free drainage when necessary, and in speaking of paracentesis, I mean not only puncturing the drum membrane, but making an opening sufficiently large to permit thorough drainage, and in many cases that rupture spontaneously the opening should be enlarged.

Great volumes might be written on this subject, but many of the interesting points have been brought out in the paper and discussion and I wish to thank the members for their interest and discussions.

CLINICAL CASES

ANAL PRURITUS TREATED BY OPERATION; REPORT OF CASE.

By Granville S. Hanes, Louisville.

Preliminary to the report of this case I will say that I know of no subject about which there is more universal absence of unanimity of opinions than that of Pruritus Ani.

The expression "Pruritus Ani" can logically refer only to the itching and its locality yet as it is employed it must have some kind of reference to a pathology. Again the numerous causes assigned, the uncertainty of the pathology and the vast number of remedies recommended for its treatment are all evidences of inability and failure to cope with this complex condition.

It is well known to every one that itching about the rectal outlet is by no means infrequently encountered yet in the large percentage of these cases definite causes can be made out and by their removal patients are promptly relieved.

I hope no one will fail to understand that the case I am about to report does not belong to the class referred to in the preceding paragraph but to the type of complex cases pointed out in the beginning of these remarks.

The patient is 38 years of age and has no history, family or personal, that in any way relates to his condition except he had typhoid fever 17 years ago. After recovery from the fever he had some annoyance from indigestion, constipation, flatulency, etc.

The pruritus began about 12 years ago. At that time he had attacks of itching that were very mild and easily controlled, but, there were recurrences at various intervals with gradually increasing severity and difficulty in gaining relief. I wish to call your attention especially to this feature of the history,—very gradual increase, over a period of twelve years in the frequency and severity of the attacks with constant decrease in disposition to yield to treatment. A similar history can be elicited from every one, almost without exception, who has this type of pruritus.

This patient's experience in exhausting every effort to obtain relief is typical of these patients. He began treatment early in the course of the disease by using vaseline, lard, axle grease, powdered earth, etc. Not feeling at all flattered with the results of his own prescriptions he then turned for relief to his friends, old colored women, Indians and vagrants, who perchance passed his way. Of course, all of these remedies had been tried out in much worse cases and had never been known to fail. There was no improvement. He then took to advertisements in newspapers, magazines, almanacs, etc. Again discouraged, he consulted a so-called herbalist, whom you all know. This mercenary genius had numerous formulae for pruritus ranging in price from $5.00 to $25.00. He recommended the $15.00 formula, in this case, since there was just sufficient efficacy in the remedy to obtain the most brilliant results. All hope was again lost. His physician, Dr. Bates, then brought him to me. I advised an operation. He declined and I did not hear from him for two years when he returned and said he had been treated for the greater part of two years by an advertising "pile doctor." He consulted this man and was at once advised that he had eczema and for $100.00 received at once he would guarantee a cure. The history of the patient's suffering for two years is too long and tedious to relate but can be well illustrated by giving Dr. Bates' report of the conditions he found at the patient's residence on the night of November 7th, 1912. Upon his arrival he found the patient half apparelled, running to and fro, in and out of the house, like a wild man. His suffering was so great that his wife and children were ringing their hands and weeping, fearing he would do himself great personal injury. It seemed that the patient had reached the full limit of tolerance as a consequence of his suffering. Peace was restored, however, when the Doctor gave a liberal hypodermic of morphine. The next day he was brought to my office and was anxious for an operation or anything that offered any hope of relief. I neglected to say that during the course of twelve years he consulted a number of doctors from whom he received advice and treatment.

In this history there is no exaggeration of the awful suffering these patients experience. This is the type of disease to which I referred in my preliminary remarks.

The tissues surrounding the anus, the perineum, the scrotum and the glans penis were all involved. The picture of intolerable, intractible pruritus ani could not have been improved upon.

More than two years ago I tried injecting various agents into the tissues around the anus for the relief of itching. I discovered that the hypodermic needle often entered the hollow space beneath the skin in which it could be moved about freely. Where the disease was severe and of long standing this condition was present almost to the base of the scrotum in front and to the coccyx behind. I recalled having heard Mathews say that he had cured many patients of so-called "itching piles" by simple removal of all redundant tissue about the anus. In operating on similar cases I remembered that in cutting through the redundant skin in making the pedicle a small cavity was often observed. The great majority of these cases were promptly relieved of their itching for the reason that a large portion of the diseased tissues was removed with the hemorrhoidal tumors and the remainder of the diseased area was allowed to heal by granulation.

These observations in connection with other evidences lead me to believe that such cases of pruritus ani as I have described are not local infectious conditions involving the skin alone but also the deep subcutaneous structures and infect all the anal tissues resting on the inner surfaces of the sphincter muscles, the lowest portion of the rectal mucosa and the tissues interposed between the anal muscles and ischio rectal fossae on either side together with the deep structures anterior and posterior to the anal canal.

Whatever the bacterial nature of the infection may be the invasion is, no doubt, made through injuries and infections along the pectinate line. We know that salves, lotions, dusting powders, division of subcutaneous nerves and cauterizing the affected skin surfaces does not cure this disease. If the deep structures are involved we can see why the various forms of treatment are ineffective.

Having taken the above view of the subject I have operated upon this and a number of other cases by making an incision in the posterior median line of the anus at its posterior border. In well-marked cases a bent grooved director can be passed around under the skin to the anterior median line. The superimposed tissue is divided at the junction of the skin with the anal lining. A small portion of the overhanging edges is removed, care being observed not to remove too much that stricture may result. The skin is then held back by forceps and the diseased area is thoroughly burned with the actual cautery. The opposite side is treated in an identical manner. The grooved director can be passed under the skin anterior and posterior to the anus and then divided, the deeper structures being thoroughly cauterized. I think it is well to also cauterize the skin adjacent to the incisions. When the deeper structures are exposed no one can doubt their involvement in the infective process. Even in so radical treatment as I have done in this case but little tissue is removed though extensive drainage is afforded.

The after treatment must be conducted very carefully. Since all the tissues invaded are chronically diseased they are exceedingly sensitive. For this reason a 20% solution of cocaine is used in dressing the wounds and some anodyne salve is also applied on the dressings. After a few days the rectum should be irrigated with bichloride, permanganate, iodine or some mild antiseptic solution. There is infection on the inside that must be relieved before the patient is cured. The irrigations should be allowed to pass in and out at once and not pass up into the sigmoid. The X-ray has, we believe, been of considerable service. After ten or twelve days the anal muscles are gently dilated. This should be done every four or five days and cocaine should be applied locally.

This patient has been relieved absolutely of all itching except on the scrotum and penis for which nothing was done. I felt there would be no great difficulty in taking care of these parts if the original could be cured.

Notwithstanding the belief by many that this condition is of a constitutional nature such contentions can be easily overcome if the diseased tissues are exposed and allowed to exhibit their true state.

Murray contends that it is a staphylococcic infection and that he gets good results by treatment with autogenous vaccines. I fear this plan of treatment will prove no better than some other infective conditions that have been treated in a similar manner.

Whatever the true nature of the infection may be it is certain that the disease process will not be arrested until the infection has been eliminated.

DISCUSSION.

L. S. McMurtry: The subject of pruritus ani has for a long time been among the opprobria of medicine and surgery. In justice to the reporter, attention should be particularly directed to the fact that, in his preliminary remarks, he stated that surgical treatment is applicable to a limited special class of cases. Therefore, I think it would be unjust to him for us to assume that he proposes to treat every case of pruritus ani by the operative procedure he has described. There is a large number of cases of inveterate and harassing pruritus affecting the vulva in women which does not involve the anus, although there are many cases in which the itching affects both the vulva and the anus, and these are certainly most distressing cases. In some of these, the pruritus is caused by a foul, offensive discharge from the vagina; in others, the pathology is an eczema of the rectum, when chronic, produces an inveterate itching. I am sure that many of these cases can be cured without resorting to surgery. For instance, in a case of vaginal pruritus, the surface of the skin will oftentimes become infected under constant bathing by a discharge of this character, and many of these cases may be cured by shaving off the hair and applying tincture of iodin to the whole cutaneous surface as well as the edge of the mucous membrane.

I think Dr. Hanes is correct in the position he takes which I think we can accept and that it will do away with the confusion that has enshrouded this condition for so long a time. Many of my own patients with pruritus of the vulva and pruritus of the anus have been sent to Hot Springs, and the idea has prevailed for a long time that it is a systemic condition due to a rheumatism-gout, or uric acid diathesis. Oftentimes it is considered to be a pure neurosis, due to inflammation of the nerve fibres. The operation practiced by proctologists, of dividing the nerves about the anus, was done with the idea that there was a localized pathology. Eliminating these types of cases, Dr. Hanes addresses himself to a special and particular class. I have seen both men and women afflicted with pruritus who were utterly miserable all the time, and in wretched physical condition, having run the entire gamut of local treatment and internal medication of various kinds. These cases are peculiar to themselves and resist all forms of treatment. I think we can diminish the idea of a systemic or neurotic condition, and come down to the fact that it is always a localized disease. In the majority of cases it is a superficial cutaneous infection, but in some instances it is a deeper, subcutaneous infection, and it is to the latter type, I take it, that the operative procedure described by Dr. Hanes is applicable.

I think Dr. Hanes is entirely correct in his statement that the particular point which he indicates is the portion of the alimentary tract that is most readily attacked and yields most easily to the onslought of invading bacteria.

A very pertinent question has been asked; that is, should there be a differentiation between ischio-rectal abscess and this condition? The condition described by Dr. Hanes is not an abscess at all; it is an infection that results in something like a dry necrosis. There is a necrosis of the tissues immediately around the gut, due to bacterial invasion, and it is the influence of this condition upon the abundant nerve supply about the rectum that produces the pruritus.

I feel that Dr. Hanes has made a very valuable and original contribution on this subject, and I hope that further experience with the treatment described will verify his conclusions. It seems to me that the prompt relief secured in every one of the cases mentioned by the reporter justifies him in saying that it is an accomplished fact.

I simply wish to emphasize the fact, which the essayist brought out in the very beginning, that this operation is not applicable to every case of pruritus ani. However, I believe that in every case the rectum and the adjacent tissues should be carefully examined to determine whether or not there is a subcutaneous localized infection, with a necrotic area.

I congratulate the reporter upon this important and original contribution to the pathology and treatment of this very complicated and harassing condition.

M. L. Ravitch: After listening to Dr. Hanes' report from beginning to end, and starting at the end, I find that he did not cure his cases. He tells us that after the operation, followed by irrigation with a solution of bichloride of mercruy, these patients are relieved. I have been able to relieve many cases of pruritus by the application of a solution of bichloride of mercury, alcohol and oil. Then he goes on to say that he also employed X-ray treatment. The X-ray is one of the most efficient remedies we have in the treatment of this condition. I have had several cases that resisted every form of treatment, until in despair I used the X-ray, and they have been cured.

We do not know the pathology of pruritus ani and I do not believe Dr. Hanes does. Dr. Allen an ardent follower of vaccine therapy, will tell you that many cases can be cured by means of vaccines. Do they? Only in theory. I believe that pruritus ani or any other puruitus, is largely due to a systemic condition.

As to the operation Dr. Hanes describes, we must not forget that when we remove the skin from the rectum, vagina, or any other part of the body, we have a secondary pathological condition, due to shrinkage, which sometimes gives rise to a great deal of trouble. I had one case in which the scar tissue following an operation for slight hemorrhoids gave the patient considerable trouble. In desperation she went to an osteopath who employed massage and she was relieved. The osteopath found the skin very dry and massaged it, thus helping Nature to re-establish the normal elasticity, and the patient got well.

I do not believe that one or two, or even half a dozen cases justify the drawing of any definite conclusions. There are so many different conditions that may give rise to pruritus.

In pruritus of the vagina oftentimes the exciting pathological condition is in the uterus. Pruritus ani may be due to worms, hemorrhoids, fissures, etc., and when we correct these conditions the pruritus will disappear. While I have the greatest respect for Dr. Hanes' opinion, still I do not think we should be hasty in drawing conclusions. Until the so-called pathological "pockets" found by the doctor are investigated and fully explained, we cannot accept his theory and cure.

J. T. Windell: Dr. Hanes preceded his report with the statement that the operation he described is applicable only in a certain type of cases, and Dr. McMurtry, in his discussion, emphasized this point. I will venture the assertion that not a man in the room, except Dr. Hanes, has ever seen a case of the kind he describes. I do not think the members of the society should be allowed to leave here under the impression that Dr. Hanes proposes to cure all cases of pruritus by the method outlined. Dr. Ravitch seems to be laboring under a misapprehension as to the type of cases referred to in Dr. Hanes' report.

Jno. K. Freeman: I do not exactly understand the pathological conditions that Dr. Hanes has endeavored to describe, and I would be glad if he would go into this phase of the subject a little more fully in his closing discussion. What is the offending organism in the infection he mentioned? Is it due to the staphylococcus, the colon bacillus or some other micro-organism?

A. R. Bizot: Dr. Hanes stated that he cauterizes a part of the tissues in carrying out the procedure he mentioned. Some time ago I read an article advocating the use of pure carbolic acid in these conditions, and I have tried it myself, but actual cautery has been used in the treatment of pruritus ani for a long time, and I understand that it has proved very efficient. I would like to ask Dr. Hanes if he has ever tried cauterization alone, instead of removing the tissues as he described.

W. C. Dugan: Like Dr. Freeman, I would be glad if Dr. Hanes would tell us more about the pathology he mentioned. That "Nature abhors a vacuum" is an old and true saying, and I believe Dr. Hanes has the wrong idea about the space he referred to. I believe that this space is, not the cause, but rather the result of the constant rubbing, unless there is an old sinus present. Itching as the result of weeping around the anus from an old sinus is a condition that we have recognized for a long time.

I think this subject should be carefully investigated, the tissues submitted to a pathologist and carefully examined. Dr. Hanes tells us that he has found pus-forming bacilli in these cases, but no pus. Then what are these pus-forming bacilli doing there?

The operation Dr. Hanes described is not absolutely new. A great many operators have been excising the tissues about the rectum for the relief of pruritus for a long time.

As to the use of caustics, I believe it would be far better and quicker to cut out the tissues. Why stop at removing a quarter of an inch of tissue when it is proposed to destroy three-quarters of an inch with caustics? We can do it much more quickly and thoroughly with the scalpel.

I hope the doctor in closing will tell us something a little more definite about the space he mentioned than he did in the report.

Wm. H. Wathen: Of course we all know that Dr. Hanes did not intend to convey the idea that all cases of pruritus ani are due to the pathologic condition he described; it is merely one among the many forms of pathology that produces this trouble. I take no stock whatever in so-called "neurotic" pruritus of the anus or vulva. Pruritus is the result of the absorption of poisonous enzymes from dead germs. We do not know why the germs do not always cause the condition, nor do we know why it is that an extensive infection around the rectum or vagina may not cause a pruritus, while a slight infection will oftentimes give rise to a most intense pruritus. It is thoroughly understood that in what was formerly termed senile endometritis in women past the age of fifty or sixty years, with a little yellow discharge coming from the cervix, there is a most intense itching about the vulva that cannot be cured until we remove the pathology in the cervix that is causing the trouble. We also know that pruritus caused by some pathology in the urethra which can not be cured until the pathology that is inducing the poisonous enzymes is removed. The same principle holds good in anal pruritus. There is a pathology present that must be removed, so as to destroy the poisonous enzymes that are being constantly generated and irrigating the tissues. There is no necessity for destroying a great amount of integument about the rectum unless that integument has in it a pathology that is helping to generate the poison. This is true, in a general sense of every part of the body. We now know that many manifestations that were formerly called diseases of various parts of the body, are really symptoms of disease, and that pruritus ani and pruritus of the vulva are merely symptoms of a pathology which must be removed before the condition will be cured.

G. S. Hanes, (Closing): I am not surprised that the discussion of my report represents widely divergent views. It is a subject upon which one can occupy almost any position and feel assured that he is not standing on new grounds.

I will say to Drs. Dugan and Freeman that nature has provided a loose, elastic tissue that surrounds the anal opening and is also interposed between the capsules of the fossae and the sphincter muscles on either side. This permits the muscles and other anal structures to accommodate themselves to the passage of large fecal masses without violence to the parts. It is this loose tissue which is of low vitality that is destroyed by the infective process and, therefore, results in the hollow spaces that I have referred to. As much as nature may abhor a vacuum we know that we do have such spaces produced by dry necrotic processes. It is a general impression that massage and exercise to the tissues stimulates a more healthy condition rather than instituting a degenerative process. It is my opinion that Dr. Dugan's interpretation of the effect of rubbing and scratching of the parts is incorrect and contrary to natural results. Again I would say that pus forming bacteria do not necessarily form pus when they are present in tissues. As to why they are present in these cases I am not able to say. I wonder if he has not encountered bacteria in certain portions of the body without being able to explain their presence? I think Dr. Dugan failed to understand what I said concerning cauterization. The open wound should be thoroughly burned and the skin adjacent should be cauterized but it is not intended that great sloughs should be created by the heat. Much care should be exercised in removing these tissues or else there will be exaggerated contractions.

Where there is very little tissue diseased actual cauterization might prove successful but it certainly could not be relied upon to cure such cases as I have reported.

Dr. Ravitch certainly failed to grasp the importance of my preliminary remarks in the case reported. When he speaks of curing such conditions as I have reported by the use of bichloride of mercury, alcohol, etc., we know that the gentleman is not correct in his diagnosis or there is a leak somewhere.

Neither will X-ray alone cure any such case of pruritus as I have reported. I have made no claims to have cured these cases by operating alone but advised the employment of various supplementary agents. The greater part of Dr. Ravitch's discussion does not apply to the class of cases I reported.

In this report I have called the attention of the members of this society to some observations I have made in treating this type of cases. There is no disposition to force hasty and uncertain conclusions but to ask you, when opportunities present themselves, to prove or disprove the points to which I have called attention.

TUBERCULOSIS: SANATORIUM TREATMENT.

(REPORT OF CASES.)

By E. L. Pirkey, Louisville.

These cases which I have the pleasure of reporting this evening are taking the Sanatorium treatment for tuberculosis at the Association Sanatorium, Hazelwood. These are not selected cases, but all the male patients, that are now on exercise who have been at the institution over three months.

Patient No. 321.—Machinist, age 45, married, admitted June 3, 1912, diagnosis, far advanced I. Right lung, upper lobe consolidated, left lung, both lobes consolidated, M and M rales over these areas.

At present, lungs clearing, few scattered rales, no M. and M. rales, sputum on admission, tuberculosis Gaffky No. 9, staphylococci and streptococci, elastic tissue, sputum last examination, t. b. Gaffky No. 4, staphylococci and streptococci diminished, no elastic tissue.

Urine, albumin and granular casts.

Blood on admission: red blood corpuscles, 4,000,000, white blood corpuscles 18,000, haemoglobin, 70%, leucocytes 80%, small lymphocytes 12%, large lymphocytes 8%. At present, red blood corpuscles 4,800,000, white blood corpuscles 16,000, haemoglobin 80%, leucocytes 76%, small lymphocytes 20%, large lymphocytes 4%.

Complications, mitral regurgitation, rheumatoid condition left knee and both ankles. Patient had temperature and severe cough on admission, now cough, very slight of mornings. Temperature normal, on exercise, varying as to condition of rheumatoid condition.

Weight on admission 127 1-2, at present 157, gain of 29 1-2 pounds. Patient's left knee was giving pain on exertion to-day, so he couldn't be present.

Patient No. 345—Salesman for hardware company, age 24, single, admitted August 31, 1912, diagnosis on admission moderately advanced tuberculosis right lung, consolidation of upper lobe, slight consolidation of middle lobe, rales of varying size over chest anteriorly to fourth rib, posteriorly to ninth dorsal spine. Left side, no rales, breathing increased over upper lobe. At present, slight consolidation on right anteriorly to second rib, posteriorly to third dorsal spine.

Crepitant rales heard over this area upon cough. Cough upon admission sometimes severe enough to cause emesis, at present cough slight. Sputum on admission t. b. Gaffky No. 4, staphylococci and streptococci. On last examination t. b. negative, staphylococci and streptococci diminished.

Urine negative, except increased indican, negative upon last examination. Blood examination on admission, red blood corpuscles 4,800,000, white blood corpuscles 8,400 H. 70%; leucocytes, 68%; small lymphocytes 27%; large lymphocytes 5%, last examination red blood corpuscles 6,200,000, white blood corpuscles 8,000, H. 90%; leucocytes 64%; small lymphocytes 23%, large lymphocytes 13%. Patient had temperature on admission, at present normal. On 80 minute exercise each day. Weight on admission 125 1-2, at present 158, gain of 32 1-2 pounds.

Patient No. 368.—Clerk in law office, age 20, single, admitted December 10, 1912, diagnosis on admission moderately advanced tuberculosis—right lung, consolidation upper lobe and of lower lobe anteriorly, large and small moist rales over this area, left lung, normal, at present upper part of lower lobe has cleared and upper lobe clearing with diminished rales. Sputum on admission t. b. Gaffky No. 6, also staphylococci and streptococci and blood cells, sputum last examination t. b. Gaffky No. 3, also staphylococci and streptococci. Urine negative.

Blood on admission red blood corpuscles 4,-200,000, white blood corpuscles 11,400, H. 70%; leucocytes 75%, small lymphocytes 18%, large lymphocytes 7%. Blood now, red blood corpuscles 5,600,000, white blood corpuscles 8,800, haemoglobin 85%, leucocytes 73%, small lymphocytes 24%, large lymphocytes 3%. Patient having temperature on admission and severe cough, at present cough slight and temperature normal, on 40 minute exercise each day. Weight on admission 120, now 135 1-4, gain of 15 1-4 pounds.

Patient No. 369.—Clothing salesman, age 38, married, admitted December 11, 1912, condition on admission moderately advanced tuberculosis, lungs, chronic fibroid type apices of both lungs. At present, lungs clearing. Sputum on admission t.b. Gaffky No. 1, few staphylococci and streptococci. Sputum at present t. b. Gaffky No. 1 few staphylococci and streptococci. Urine negative.

Blood on admission, red blood corpuscles 4,600,000, white blod corpuscles 12,400, haemoglobin 80%, leucocytes 78%, small lymphocytes 18%, large lymphocytes 4%. At present red blood corpuscles 4,800,000, white blood corpuscles 10,600, haemaglobin 80%, leucocytes 85%, small lymphocytes 71%, large lymphocytes 8%.

Complications were ulcerated tuberculous larynx. Patient having temperature upon admission, at present normal; on 60 minute exercise each day. Weight on admission 145, at present 166 1-2, gain of 21 1-2 pounds.

Patient No. 371.—Clerk, age 24, single, admission December 16, 1912. Condition on admission moderately advanced tuberculosis, right lung, consolidation of upper lobe, small moist rales over this area, left lung consolidation both lobes, diffuse m. and m. rales over this area. At present, consolidation both lobes left side, rales diminished, right side, clearing. Patient had several severe hemorrhages before admission, and two more of ounces viii each, within 48 hours after admission. Every time he coughed for a period of 14 days after admission, he would spit a mouthful of blood.

Sputum t. b. Gaffky No. 9, blood, staphylocci and streptococci, pneumococci.

Sputum t. b. Gaffky No. 5, blood, staphylococci and streptococci.

Urine negative.

Blood on admission, red blood corpuscles 3,800,000, white blood corpuscles 10,600, haemaglobin 70%, leucocytes 67%, small lymphocytes 21%, large lymphocytes 12%. At present, red blood corpuscles 5,200,000, white blood corpuscles 9,600, haemoglobin 80%, leucocytes 66%, small lymphocytes 28%, large lymphocytes 6%.

Patient running temperature upon admission, at present, normal. On 30 minute exercise each day; weight on admission 132, at present 152, gain of 20 pounds.

DISCUSSION.

Dunning S. Wilson: The most interesting facts that have been brought out in this report are, first, the gain in weight shown by these patients, and, second, the continued presence of tubercle bacilli in the sputum in all but one case. To all appearances these patients are well but, as a matter of fact, they are now in even greater danger than before, because they are apt to be misled into believing that they are in much better condition than physical examination and sputum analysis would indicate. One of these patients has a tuberculous laryngitis, but were it not for the fact that he cannot speak above a whisper, no one would suspect that he had any condition referable to the lungs or throat.

I also wish to make the observation that, if these patients had improved to the same extent at any place west of the Mississippi River or in the northern portion of New York, the improvement would undoubtedly have been attributed to the effect of climate. These cases should serve to impress upon us the fact that, with proper care and treatment and the exercise of rigid discipline, as great improvement may take place in this climate as in any other.

Another point I wish to impress upon you is that we should be very careful about permitting our patients to get the idea that, because their symptoms have practically disappeared, the disease is cured, which is something I believe we are all guilty of at times. I realize that we may be placed in an embarassing position sometimes, because, if the case is a private one, the patient is apt to think that the doctor has some mercenary reason for keeping him under observation, and if it is a sanitorium case, that it is with the malicious intention of preventing him from returning to his home and family. However, I think it is our duty to insist that "the things that are unseen are eternal;" it is only the things that are seen that are temporal.

J. B. Richardson, Jr.: I would like for the essayist, in closing, to explain what he means by the terms "Gaffney No. 4," "Gaffney No. 5," etc.

E. F. Horine: These patients are certainly healthy looking subjects. There is one thing I would like for Dr. Pirkey to tell us in closing; namely, how many leucocytes he counts in making a differential count? The ordinary count is 300 to 500. I have always found, not only neutrophiles and a large number of basophiles, but also a certain number of lymphocytes and transitionals. I note that at no time did Dr. Pirkey mention that he found neutrophiles or basophiles, and I would like to know how many leucocytes he counts in making a differential count.

Virgil E. Simpson: I am sorry that the question of climate has been injected into this discussion, as I have some rather decided views in regard to the influence of climate, not only upon tuberculous conditions, but upon diseases of the respiratory system in general. I have never been able to convince myself that the climate that furnishes the largest percentage of diseases of pulmonary nature can, at the same time, produce a satisfactory percentage of recoveries from such conditions. I believe there is no question in the minds of the professon to-day as to the value of rest in the treatment of tuberculosis. With rest, with a diet that is highly nutritious and at the same time easily digested, and with properly regulated exercise as the temperature diminishes or disappears, these cases will often show wonderful improvement in spite of climatic conditions, and I believe the improvement shown in the patients exhibited here to-night can be largely attributed to these measures.

In deciding whether or not to advise our patients to go away, the most important point to be considered is the status of the individual, not only so far as finances are concerned, but also family ties. If the patient is a young man, unattached, who can absent himself from home with little or no inconvenience and worry with its attendant ill-effect upon the nervous system, I believe we are justified in sending him away. One the other hand, when a man, or woman, must worry attendant upon a separation from them leave a family, and perhaps small children, this would probably more than offset the good that a change of climate might do.

I am still of the opinion that the climate that affords a maximum amount of sunshine with a minimum of changes in temperature and with a comparatively low humidity, combined with the other measures with which we are all familiar, will give us the best results in the treatment of tuberculosis.

J. R. Peabody: These four patients should be an object lesson to those members of the profession who are still skeptical as to the possibility of curing tuberculosis. The impression exists among the laity that it is an incurable disease, and I know a few doctors who believe that tuberculosis is diagnosed a good many times when it is not present. I believe Dr. Pirkey referred to all of these as moderately advanced cases—there was not an incipient case among the number, and still no one, not even a physician seeing any of these patients under ordinary circumstances, would dream that they had tuberculosis.

I am inclined to agree with Dr. Wilson that these cases appear to demonstrate that climate is not the whole thing in the treatment of tuberculosis. Personally, I have been an enthusiastic believer in the influence of climate on this condition. If the patient can afford to go away, especially during the hot summer months, and if the place selected offers a decided change in climate, it will undoubtedly, in my opinion, give the patient a start up the hill. The doctors in Colorado, where I practiced at one time, believed that they had scientific proof that the higher altitude tended to increase the number of leucocytes to such an extent as to take care of the tubercle bacilli, but this has not been corroborated by other observers, and until this is done we cannot be sure of the effect of altitude on tuberculosis.

P. Richard Taylor: One important point brought out in the report is the rapid improvement in these cases in spite of the fact that none of them were what might be termed incipient cases. Dr. Pirkey stated that one of them had a tuberculous laryngitis upon admission to the sanitarium, which shows that he necessarily had tuberculosis elsewhere in the body, because tuberculous laryngitis is always a secondary condition.

Climate unquestionably has a decided influence upon tuberculosis. A tuberculous patient may go to Florida and stay there a year, but he would not be benefitted as much as he would by a climate affording both warmth and altitude. I have sent many cases to sanitariums throughout the West during the past twenty-five years, and many of them have improved so rapidly that they considered themselves well in about six weeks and refused to stay at the institution any longer. Two years ago I sent out there a man who was running a temperature and had lost considerable weight, and sixty days was as long as he would stay because he improved so rapidly. He is still living but will probably die because he will not follow instructions. I have seen patients come back from Arizona or Colorado after a stay of eighteen months or two years, seemingly well, but after a year or so in this climate they would have to go West again.

Altitude necessarily affects the circulation. Decreasing the atmospheric pressure causes an increase in the circulation and consequently improves the nutrition. I do not mean to imply that tuberculosis cannot be cured in this climate. It is largely a matter of proper care and diet, but the climate that offers a high altitude with a minimum of variations in moisture and temperature and more constant sunshine will undoubtedly help these patients to improve more rapidly than they will here, where we have such frequent and severe changes in the weather.

Irvin Lindenberger: I would like for Dr. Pirkey to tell us, in closing, whether this case of tuberculous laryngitis manifested much pain?

E. L. Pirkey, (Closing): This patient gave no history of pain .

One of the speakers asked what is meant by the term "Gaffky No. 4," etc. This term is used to indicate the number of tubercle bacilli found in the microscopic field; for instance, Gaffky No.

1 means that one bacillus is found in the field, Gaffky No. 2, two bacilli, and so on up to Gaffky No. 10, which means that numerous bacilli are found in each field.

In making differential blood count I count 200 to 300 white cells. I usually keep the eosinophiles and transitionals separate, but in this report I bunched them all under the head of leucocytes.

Just one more point in regard to whether or not these patients should go to a sanitarium. I believe that all tuberculous patients, regardless of family ties, even a mother who has to leave small children, should go to a sanitarium. Lying in bed and worrying about the children is not as bad as having to stay up all night waiting on them. For the same reason, I believe a man who is the father of a family is better off in a sanitarium. Worrying about being away from them will not take his appeite as quickly as hearing the children crying and quarreling around the house at meal time at home.

COBRA VENOM TEST IN SYPHILIS.

By H. J. Farbach, Louisville.

The first thing the practical man will think of is "why a cobra venom or any other test when we already have the specific Wassermann reaction.

I wil speak to three reasons why.

First: We do not at the present time, know on just what the Wasserman reaction depends. We do know that it does not, as was formerly thought depend on the union of a specific syphilitic antigen and its corresponding antibody.

Second: That too often the result of the Wassermann test does not coincide with the clinical evidence.

Third: That practical experience has proven that the Wassermann test is not a satisfactory guide in the treatment of syphilis and is of little value, giving less than 35% of positives, in the latest stages of the disease, when the knowledge of the presence of an active infection means so much in the prognosis.

The discussion of why we do not get more positive, or why it is so readily affected by specific treatment does not lie within the limits of this report.

Cobra venom is a hemolytic agent and Richard Weil was the first to describe the phenomena on which the test is based. In working with numerous hemolytic agents his attention was attracted to the action of cobra venom on the red blood cells in certain conditions and especially in instances where the red cells were obtained from a syphilitic. This led him to make a series of tests using only the red cells of syphilitics in various stages of the disease.

The results obtained by Weil have since been confirmed by every other investigator who has taken up the work.

It was Sachs that suggested that cobra venom could be used as an indicator in determining the lecithin content of various tissues on account of its lecithin combining properties. A watery solution of venom when added to a solution of lecithin in ether combines with the lecithin in such a manner as to produce a substance, insoluble in ether, of greater hemolytic action than venom itself but otherwise it looses the property of venom.

That the tissues of a syphilitic contain less lecthin than those of an individual free from the infection has been demonstrated and it is in all probability this reduction of lecithin that explains the action of the venom in this test.

Briefly the results first reported by Weil are, First: that in the very early stages of the infection the red cells of the host are more susceptible to the action of the venom than are the red cells of an individual free from syphilis.

Second: that after the second stage of the disease the red cells of the host resist the action of the venom to a marked degree, when compared to the resistance of the red cells of a non-syphilitic. And that this increased resistance is exhibited toward cobra venom alone and not toward other hemolytic agents.

It has been suggested that the action of the cobra venom on the red blood cells is similar to the action of the syphilitic virus, that they attack the same substances. In the explanation of the chemical reaction as witnessed in this test the question arises, is this increase in the resistance to the venom due to the direct action of the syphilitic virus on the red cells or is it a reactive, protective phenomena of the organism. The fact that the resistance in the early stages is lower and less than in a non-syphilitic would seem to indicate that the later increased resistance is a protective action on the part of the general economy.

What advantages does the test offer that the Wassermann does not? In my estimation, two. One that specific treatment, arsenic and mercury, does not affect the reaction and second it gives 80% positive in the late latent conditions when the Wassermann shows only 35% or less.

Another advantage I have seen is that it seems not to be sensitive to malignant conditions.

I wish to report the results I have obtained in thirty cases. Ten were cases of the severe secondary and tertiary type. Three were nonspecific erythemas. Two were of malignancy

Five were cases under treatment. Fifteen were cases with a history of the infection from twenty to fifty years ago, with no symptoms in the meanwhile.

The test in the ten cases of advanced secondaries and tertiaries was strongly positive showing little or no hemolysis even in dilutions.

In the three non-specific erythemas, one was psoriasis, one erysipelas, and one measles, the test was negative.

In the malignant conditions, one was a sarcoma and the other a carcinoma. In the sarcoma the Wassermann reaction was one plus positive but the venom gave a complete negative result. In the carcinoma both the Wassermann and the venom were negative.

The series of five cases under treatment gave some interesting and instructive results. Two of these had received the ordinary complete course of treatment and had shown negative Wassermanns for several months. The other three had received both arsenic and mercury medication and although had not taken the full course of treatment the Wassermann test was negative in each. All of this series gave a decided positive result with venom.

These twenty cases give results that have a direct bearing on the practical every day treatment side of the question. This last series of fifteen cases awake a different interest.

I have collected in the past three years twenty-six cases that give a history of having contracted syphilis from twenty to fifty years ago, having had the primary and secondary manifestations of the disease. There has been no evidence of the disease in the individual or his family since his treatment which was instigated at the time of the clinical evidence. Still twenty-three of the twenty-six showed a positive Wassermann.

I have been able to test fifteen of these cases with the cobra venom and in every instance the reaction was negative.

This is not the place to enter into the discussion of the field opened by these results but it does offer some testimony in favor of immunity in syphilis.

DISCUSSION.

Jno. D. Allen: This is a very interesting report, especially with respect to the cobra venom test for syphilis; I think the doctor is to be congratulated upon the results he has obtained from it. His results with the Wassermann reaction however, do not compare with those obtained by other laboratory workers. The diagnostic value of the Wassermann test has been thoroughly established by such men as Wassermann himself, Noguchi and others, and when we fail to get like results it must necessarily be due to some error in technique or to faulty reagents.

I would like for Dr. Farbach to tell us, in closing, whether he uses the original Wassermann reaction or the Noguchi modification; and also whether he uses stock reagents or makes his own reagents? I have often titrated stock reagents along with reagents of my own make and found that in the former the amboceptor deteriorates, and when it has deteriorated to such an extent that it has to be used in as great as 1-500, we cannot expect reliable nor satisfactory results, because, when used in this strength, it will utilize a complement that has already been fixed, and we thus change a positive reaction into a negative one. Therefore, unless we have reliable reagents and run a known positive and a known negative control, we cannot expect reliable nor satisfactory results from the Wassermann reaction.

The diagnostic value of the cobra venom test has also been established by Wassermann and other men of note. Wasserman considers its chief value to be an adjunct to the Wassermann reaction; in other words, while it is a good test it is a not as reliable as the Wassermann. Taken all in all, the Wassermann reaction will show positive in 86 per cent. of syphilitic subjects and the cobra venom test is only 82 per cent. These figures are given by Wassermann himself who has made approximately 30,000 tests.

The principle of the cobra venom test is this: The toxin of the spirochetes is haemolytic for red blood cells, but after the red blood cells have been exposed to the toxin for a period of time, or, in other words, after the patient has reached the secondary stage of the disease, the red-blood cells attain a state of immunity, or reach a point of resistance where they are not haemolyzed by the toxin in the same dilution; cobra venom is also haemolytic for the red-blood cells, but when we mix it with the red-blood cells of a syphilitic patient which cells have attained the point of resistance to haemolyzing agents, haemolysis will not take place. This is a positive reaction. Now since this is the principle of the reaction, it is clearly evident, and has been demonstrated a number of times, that tuberculosis, or any other disease, the toxin of which is haemolytic for the red blood cells, will give a positive cobra venom reaction. Hence, the reaction is not specific. It is true also that the Wassermann reaction is not specific; that we sometimes get a positive reaction in conditions other than syphilis, and that it is occasionally negative in known syphilitic patients. But, in diseases other than syphilis giving a positive reaction, the reaction will remain positive under specific treatment, and those cases of syphilis giving a negative reaction, will show a positive reaction under iodid treatment. Therefore, with the addition of these two suggestions we have in the Wassermann reaction a test for syphilis that is more nearly specific than the cobra venom test.

I think the medical profession will eventually come to a more conservative interpretation of the results of all tests for syphilis, of which there are at least six. There are those who consider a positive reaction from either the Wassermann or cobra venom reaction or any other form or modification of these tests, as absolutely diagnostic of syphilis, while there are others who attach little or no importance to any of them. We should strike a happy medium and consider such reactions, not as absolutely diagnostic, but merely as symptoms which, combined with the clinical manifestations, will aid us in making the diagnosis of syphilis.

H. J. Farbach, (Closing): First, in regard to Dr. Allen's question as to the reagents used. I have had—and I presume every other worker with the Wassermann reaction has had—the same experience of Dr. Allen. My experience with the stock reagents has been that 40 per cent. of the amboceptor is inert. Therefore, while I depend upon Mulford's antigen, which I believe they can make better than it can be made in a small laboratory, I make my own amboceptor. It is my unalterable rule to test both the complement and the amboceptor before making the reaction upon the suspected serum.

In regard to the cobra venom test, the men in this country who are doing the most work along this line are Schwartz and Stone, and they have yet to find any condition liable to be confused with syphilis that will give a positive reaction to cobra venom. As stated in the report, it is of little or no value in the primary and secondary stages of syphilis. Many times, in the presence of the most positive clinical evidence of syphilis, Wassermann reaction too will be negative. The advantage of the cobra venom test is in the tertiary and latent forms of syphilis and as a guide to the effect of treatment. The Wassermann reaction becomes negative after treatment has been instituted and is, therefore, of no value in aiding us to determine when the patient is cured. If the cobra venom test will do this, then it is superior to anything we have in the way of an aid in the treatment as well as in the diagnosis of syphilis.

DELIVERY OF A HUNCHBACK.

By Wm. B. Doherty, Louisville.

Through the kindness of Dr. Vidt, of the City Hospital, I was furnished with the following history of Margaret, aged 27, height 4 feet 2 inches, weight 75 pounds, circumference of arm 7 inches, forearm 6 1-4, calf of leg 8 1-2, thigh 12 1-2. She was admitted to the hospital on February 12, 1913 and delivered of a 6 1-4 pound baby girl on the following day and discharged from the hospital on February 28th, fourteen days after confinement in excellent condition. When fourteen months old she fell from a chair to the floor and injured her back. Her deformity dates from that time. Her menses began at the age of 15 lasting from two to five days and occasionally she would miss one or two periods. Fetal heart sound could not be heard. Cervix dilated to width of two fingers. Blood pressure systolic 148, diastolic 110. On the morning following her admission to the hospital had considerable hemorrhage and packing the vagina was necessary in order to stop it. Two hours later the tampon was expelled and another attack of hemorrhage occurred, more profuse than the former. Vagina was again packed. Cause of bleeding could not be determined.

An examination after my arrival at the hospital revealed a vertex presentation, r. o. a. position, cervix soft and slightly patulous and head engaged at superior strait. Forcible pains set in and after a short time the head entered the pelvic cavity, the cervix dilated and membranes ruptured. Forceps was applied in the presence of several physicians and students and Margaret was delivered of a healthy child. The afterbirth was attached low down which probably accounted for the ante-partum hemorrhage. Her puerperium was uneventful. No fever nor any other untoward symptom supervened and this dwarfish specimen of maternal femininity made a rapid recovery, her uterus when she left the hospital was below the symphysis and involution was progressing favorably.

What is to be gained by presenting a case of this kind, involving so little of the element of dystocia to the fellows of this society? The patient was small and weak with little muscular development, an irritable heart with a pulse of 120, but the hump involved the cervical and upper dorsal vertebrae and not the lumbar region, and therefore not materially changing the proper dimensions of a normal pelvis in one of her build. The external conjugate intercrestal, interspinous and bitrochanteric diameters were about one inch below the normal in women of proper physical development. Owing, I presume to her diminutive size she was prejudged and doomed for Cesarean section, symphysiotomy or craniotomy without a trial based on the principles of obstetrical science. From the facts in this case and many others, I am led to believe that the penchant for surgical and bizarre work and the demon of speed that characterizes all our activities, have invaded too frequently the proper discipline, technique and sanctity of the lying-in room, with disastrous results. For

" 'Tis the curse of evil deeds
That they give rise to greater evils."

The utilization of the Walcher position for increasing the conjugate diameter of the superior strait, the lateral position during the perineal stage for the preservation of the perineum, the slow traction in forceps delivery with intermittent rather than continuous compression of the child's head are cardinal measures of relief and safety that are not given the consideration their merit demands.

When weight is applied to the front of the innominate bones it is possible to enlarge the true conjugate by 1-3 of an inch by dragging down the innominate bones from the sacrum, the symphysis pubes being drawn down and away from the promontory. This gain of 1-3 of an inch may be the means of saving the life of the child that could not pass the inlet in the ordinary obstetric position. The importance of this was demonstrated by Walcher in 89 and the position consists in having the woman lie with her buttocks raised and her legs hanging down from the edge of a table without touching the floor. As the position is uncomfortable, a thick cushion placed under the woman's back while she lies supinely in bed may accomplish the same result.

In order to have the head pass the inlet, in slight disproportion or in difficult forceps extraction this position should be assumed and tested before the radical operation of Cesarean section or symphysiotomy be resorted to.

Jewett states that half of the pelvic floor injuries are preventable by skillful management of the perineal stage of labor. The lateral decubitus in the perineal stage presents so many advantages over the dorsal that the latter should be abandoned. The posture of the woman should be arranged that first, the direction of the expulsive powers act as perpendicularly as possible to the plane of the pelvis through which the fetal head is to be pressed, and the gravity of the child should not be prevented from aiding. The direction of the axis of the plane of the outlet is forwards and upwards so that in the dorsal position the expulsion is not only not favored by the weight of the child but the latter is directly opposed to the expulsive force. The force of the abdominal muscles is lessened and the stage of extension is retarded and therefore more time given for the relaxation and stretching of the perineum than when the woman is in the dorsal position. Besides asepsis can be more rigidly and safely practiced. Every text book on obstetrics in my library except one recommends the lateral decubitus and this one does not favor the dorsal position in preference to the lateral. Jewett, Edgar King, Schroaeder, Evans, Wright, Dorland, Playfair and Jardine all recognized authorities, recommend the lateral position for the better protection of the perineum. From inquiries that I have made at the hospitals of our city, I learned that rarely is the woman delivered in the side position.

Rapid forceps extraction in opposition to nature's method of slow dilatation and intermittent contractions of the uterus deserves the severest condemnation. Besides the dangers of laceration to the maternal passages the risks are even greater to the child. Contusions of the face, laceration of the integument of the scalp, fracture of the cranial bones, intercranial hemorrhage from injuries to the cerebral and meningeal arteries, paralysis, hemiplegia, idiocy, physical disorders, and epilepsy have occurred as the result of compression and misdirected application of the forceps.

The use of pituitrin to strengthen the force of uterine pains is at present under investigation. My experience with it has been so limited that I am unable to form an opinion as to its efficacy and safety. It seems to stimulate uterine action in inertia, but whether it may not produce tonic contractions to a dangerous extent like ergot has not yet been fully determined.

I plead earnestly for more delay and less haste in our obstetrical work. The well-defined conditions for rapid delivery are rare compared to the number in which the safety of mother and child is enhanced by judicious delay. Every other consideration whether social, financial or professional, must succumb to the woman in labor. She is our world's cynosure while under our charge. Unfortunately the remuneration for the time given and the grave responsibility involving the safety of two lives is totally inadequate when compared with other medical and surgical attention. Still, no higher or nobler duty devolves upon the physician than the protection of mother and her child during the throes of parturition.

Many years ago Dr. Oliver Wendell Holmes, our own great poet and physician, wrote the following beautiful tribute to the pregnant woman and mother which I am fond of quoting.

"The woman about to become a mother or with her newborn infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden or stretches her aching limbs. The very outcast of the streets has pity on her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law brought down upon its victim by a machinery as sure as destiny is arrested in its fall by a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrow from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life doubly precious at that eventful period, should hazard it negligently, unadviseldy, or selfishly."

DISCUSSION.

Edw. Speidel: Dr. Doherty has presented a very interesting case. The extent of the deformity of the patient can be better appreciated from the photographs than by observation of the patient herself, for the reason that she appears to have attempted to disguise the deformity somewhat by padding. The photograph shows the deformity to be in the dorsal region of the spine, and that was fortunate for the patient, because, even though the pelvic diameters were normal compared with the size of the child, difficulty would have been experienced in the delivery had there been a lordosis in the lumbar region, the lateral or forward curvature of the spine misdirecting the fetal head and preventing its entrance into the pelvis.

The essayist stated that the pelvic diameters were all about an inch under the normal size, but the baby was also a pound or two below the normal weight, thus permitting a natural delivery. I think the doctor is to be commended for giving the woman plenty of time to deliver herself, and then assisting delivery by means of forceps.

One of the most important means of avoiding laceration of the perineum, in addition to those mentioned by the essayist, is to insure the elasticity of the perineum before the head is allowed to slip through. This may be accomplished, when the head has reached the crown of the vulva, by repeatedly pushing it back between pains. At the end of the expulsive stage, if this be continued, the perineum will have become so elastic that the head will pass through without rupture.

In cases of delayed labor I have been using pituitrin recently, and the more I use it the better I am satisfied with its effects. However it should be administered with caution. At first I gave a full ampule, but lately I have been beginning with half an ampule, repeating it in half an hour if satisfactory results are not obtained. In a case of labor in an elderly primipara recently, I used 2 1-2 ampules of pituitrin in the course of four hours and succeeded in effecting a normal delivery without laceration of the perineum.

Ben Carlos Frazier: Dr. Doherty has presented a case that is quite out of the ordinary and I wish to thank him for this report. Of course, the delivery of this girl was practicable simply because of the position of the deformity, as has already been pointed out.

In regard to the use of pituitrin, I have had very little experience with it. I have never given it in less than 15 minims, and in two cases in which I used it I could not see that it produced any results; in another case it seemed to have a fairly good effect.

I think the lateral position is of advantage in some cases of labor and should be used considerably more frequently than it is, especially where the woman is exhausted and is trying very hard to bear down, and we cannot control them. These cases do much better in the lateral position. However, where we have a woman who is lazy, and is making slow progress, the dorsal position is perhaps better. I have had no experience with the Walcher position.

Just one more point. I do not believe Cesarean section is indicated very often, nor that symphysiotomy is ever indicated. However, I do believe that, in cases where we have conscientiously endeavored to effect a normal delivery, with forceps, without success, Cesarean section is the quickest and safest of all methods of delivery. It can be done in a hospital in about half the time a forceps delivery can be accomplished. I helped Dr. Cartledge do the first Cesarean section that was ever done in Louisville, and since then I have assisted in a number of them. I saw one recently in which the whole operation consumed less than 22 minutes, and where we have the patient in a hospital Cesarean section is the proper thing to do.

W. B. Doherty, (Closing): I had anticipated a more generous discussion, especially in regard to the lateral position.

Perhaps I did not bring out the advantages of the lateral position as well as I intended. If you want good, strong expulsive pains, certainly you can get them better with the patient on her back than on her side. The great advantage of the lateral position is that you can better watch the progress of the case, and protect the perineum better when the head is coming through. Furthermore, you can practice asepsis with greater safety. When we deliver a woman on her back, the finger is constantly near the anus, gets feces on it, and it is very easy to carry infection into the vagina. With the woman on her side, we can wipe off the area from the vagina to the anus and keep it clean all the time. There is no necessity for the fingers touching the part.

We should always put the woman in the Walcher position before resorting to Cecarean section. Why should it not be done? If the head will not engage in the superior strait, and if we can increase the conjugate diameter of the outlet by one-third of an inch, it is certainly worth while to do so.

Rapid delivery is the curse of present-day obstetrical work. Obstetricians who also do much surgery, have not time to properly manage a labor case. When one is engaged in a labor case it is his duty to deliver that woman in as safe a manner as possible, and if he cannot take the time to manage it properly, then he should turn the case over to some one who will do it.

AN UNUSUAL GOITER.

(REPORT OF CASE AND EXHIBITION OF THE SPECIMEN.)

By JNO. R. WATHEN, Louisville.

The case I report, and the specimen which I exhibit are presented to the society for the reason that I consider this goiter a great rarity and unique example of what pathology can develop in the thyroid gland. In now over 200 cases I have never encountered such a goiter.

The tumor was removed from Miss H., age 17, and the patient's previous history was negative. When first seen by me she had had the enlarged neck for about six months, her pulse was about 120-130, and the usual nervous symptoms which accompany Graves' disease.

The patient stood the operation well and made a good recovery without any voice paralysis, and with a return of the pulse to normal.

The features in this specimen to attract attention are that the goiter had completely encircled the trachea and dissected it away from the underlying esophagus. It had also left a mould of the larynx in its substance at the upper part. The tumor was exceedingly difficult to remove and looked as if it had been poured into the neck as in a mould and soldified around the larynz and trachea. With the aid of my original technique it was removed without the slightest injury to the voice, and considering the large per centage of voice paralysis folowing the other and older methods, I believe it is an excellent test of the safety of the method of operation.

DISCUSSION.

J. Hunter Peak: This report is too important to go without discussion. I have done a good many thyroidectomies, but I have never seen a case of this kind. I have seen them where the trachea had been pushed to one side and very much encroached upon by the enlargement of one lobe of the gland. We know that, embryologically speaking, the thyroid gland may be situated almost anywhere in the neck. They sometimes wander and can be found almost any place. This is certainly an unique case and one in which it must have been exceedingly difficult to enucleate the gland without injuring the larger blood vessels and the nerves.

Hugh N. Leavell: Like Dr. Peak, I think this is a very unusual case, and deserves some discussion. The manner in which the trachea was dissected away from the oesophagus is of considerable importance. To any one who has had the opportunity of seeing Dr. Wathen operate on these cases, the advantage of his method over others in the way of avoiding injury to important structures, is apparent. The manner in which he separates the gland from surrounding structures prevents hemorrhage, which has been the bugaboo of a good many operators in this field.

It seems to me that the doctor should be congratulated, not only upon having seen a very unusual case, but upon demonstrating conclusively that his method of operating in these cases presents the least possible danger in enucleating the thyroid.

H. J. Farbach: I would like to ask Dr. Wathen why this patient did not have some evidence of pressure upon the recurrent laryngeal nerve?

Jno. R. Wathen, (Closing): Answering Dr. Farbach's question, my own idea (which is purely a theory) is that these structures were so gradually dissected when the trachea separated from the oesophagus, that the nerves were carried with them. If they had not separated we can readily appreciate that the enlargement of the thyroid would have caused great pressure upon the trachea, in fact, almost obliterating it. There are cases of recurrent laryngeal paralysis where the paralysis occurs before operation, from the pressure of the tumor itself, from injury, or from other diseases. It is well, therefore, in examining these cases to look for any evidence of voice paralysis before operating. I have never had occasion to operate on a case that showed any evidence of voice paralysis before operation, and in more than 200 cases operated, I have been very fortunate in not having had an injury to the recurrent laryngeal nerve. It is largely a question of technique, and if the technique employed in this case is carried out skilfully, I can hardly see how it is possible to do an injury to the nerve.

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VOL. XI. BOWLING GREEN, KY., JULY 1, 1913 No. 13

EDITORIAL.

BOWLING GREEN SESSION.

The Bowling Green session of the KENTUCKY STATE MEDICAL ASSOCIATION, which is its Fifty-Eighth Annual Session, will be held on September 2, 3, and 4, the House of Delegates meeting at one o'clock on Monday, September 1st. This promises to be one of the best meetings we have ever held. The program is in the hands of the following committees, and while they are practically ready to make their report, it will not be in shape for publication until next month.

(1) Obstetrics and Gynecology—3 hours—W. A. Guthrie, Chairman; W. F. Nichols, Secretary.

(2) Diseases of Children—3 hours—H. E. Tuley, Chairman; A. C. L. Perceful, Secretary.

(3) Pharmacology and Therapeutics—2 hours—S. L. Beard, Chairman; L. C. Redmon, Secretary.

(4) Practice of Medicine—3 hours—Hugh Prather, Chairman; B. B. Keys, Secretary.

(5) Surgery—3 hours—J. H. Blackburn, Chairman; S. J. Martin, Secretary.

(6) Preventive Medicine—3 hours—J. S. Lock, Chairman; O. P. Nuckols, Secretary.

(7) Eye, Ear, Nose and Throat—2 hours—H. G. Reynolds, Chairman; M. C. Dunn, Secretary.

(8) Genito Urinary Diseases—2 hours—C. L. Wheeler, Chairman; F. A. Stine, Secretary.

(9) Business, House of Delegates—7 hours—W. O. Roberts, Chairman; A. T. McCormack, Secretary.

The first week in September is the most delightful time in the year in Southern Kentucky. There will be ample accommodation for everybody at from $1.00 to $3.00 a day. In next month's issue we will publish a map of automobile roads leading to Bowling Green as a great many of the members have signified their intention of coming that way. Sixty-one members of the medical profession of Warren County have held several meetings to discuss ways and means and they promise the profession of the State the best they have in the way of entertainment.

This preliminary announcement is made with the hope that the majority of the medical profession of Kentucky will be able to be present at the meeting as the guests of the Warren County Medical Society.

DEATH.

"and, How can man die better,
Than facing fearful odds,
For the ashes of his forefathers,
And the temples of his gods."
Macauley's "Lays of Ancient Rome.

Youth rarely thinks of death, for youth is the antithesis of age and it is age that contemplates the grim spectre, that ponders over the problem of the "Great Beyond;" over what wonders lie within the territory of that bourne from which no traveler has returned and realizes that with the acceptance of the Psalmist's three score years and ten, the laws of biology and divinity, both proclaiming an early possibility of a passage from this mundane sphere; this makes the contemplation and the problem of death one of more than passing, in fact, one of personal interest.

But, age is not alone the one that begins to ponder these problems, for, when the meridian of life approaches and we pass into that indeterminate period of existence, known as middle age, the great majority of humanity awaken to the fact that life is uncertain, that time is fleeting; that age creepeth upon the strong man, in his power and that death is the inevitable outlook for the individual who inhabits this earthly sphere. Life, age and death take on at this time a peculiar and to a certain extent a personal twinge and raises in the individual an interest, which Prof. Lovejoy calls an "interest of the repulsive." In a recent contribution; "Age, Death and Conjugation in the Light of Work on Lower Organisms," *Popular Science Monthly,* June, 1912, Prof. H. F. Jennings, of Johns Hopkins University deals with the above subject, and in opening his article, says that "there have not lacked men who cherished the bold thought that death may be no essential part of life, that possibly some means may be found to counteract the processes of age, for excluding death, and these men but express a secret wish of all mankind." Freudians will understand and thoroughly appreciate the extent and meaning of this latter remark. It was Wiseman who believed "that it was well to have at intervals a clearing out of the worn (aged) stock; new fresh bodies replace the battered ones, and the race which undergoes regularly this renewal must prevail and perpetuate itself in the place of those that do not." He coined the famous phrase bearing upon infusoria, that they were "potentially immortal." Jennings reviews some very interesting and illuminating experiments performed by Maupas, Calkins and himself. It was Maupas who believed that those organisms were not potentially immortal, that death inhered in the process of life. "But why then are not all these creatures dead? How is it that they exist at the present time?" The key to this is found, according to Maupas, and according to the suggestions of many before him, in the process of sexual union. As fertilization saves the life of the egg and permits it to continue devoid for many generations, so does conjugation put new life into the dying infusiorian, permitting it also to continue multiplication for many generations." But it was Calkins who found that by changing the diet that the life of these infusoria should be double that of Maupas, but that finally death would occur in spite of any changes that were made in food, thus in a measure substantiating Maupas' view. Jennings in his experiments under strict controls, the details of which cannot be gone into here, says "the results of my experiments was striking, and to a certain degree unexpected. All those that had not conjugated, continued to be weak and sickly and died out completely in the course of several weeks. Those that had conjugated showed great variation; (as usual) some died very quickly, others multiplied very slowly, and finally died out; others multiplied more vigorously than any of the nonconjugants (control test)." In his experiments he says that he believes that in these lower microscopic organisms we have here another demonstration of Mendalian laws, which, as analysis has revealed it, is the process of producing a great number of divers combinations by the favored intermingling of the characteristics, (concealed by parent) of two individuals, and that in infusoria, we can make the statement that "conjugation" produces variation.

A study of his experiments leads one necessarily to the conclusion, that in this infusoria, conjugation is not necessary in order that life and reproduction shall continue, for they continue without it. "But the life which thus continues is uniform and unchanging. To give biparental inheritance, with varying mixtures of characters of the two parents to produce these two combinations in great variety, conjugation is necessary." Thus, it would seem that the statement of Wiseman and of Woodruff in his recent experiments are justified in that these organisms "have the potentiality to perpetuate themselves indefinitely by division" and all of Jennings' statements furnish the complement to these results and agree with them fundamentally.

He says that Minot and others have advanced the following suggestions; that the most striking difference between these lower organisms and the higher ones is evidently the fact that in the higher organisms the body becomes complex and differential into a number of diverse parts; different cells of the body have taken on these different functions and different structures. "This appears to involve a correllative loss of the power, of the carrying on of fundamental vital processes. * * * Products of metabolism are no longer perfectly removed, the processes necessary to life become clogged; the final result of this, is a complete cessation of the process; age and death follow upon differentiation." "Everything is bound, it appears to me, to the essential correctness of the view which holds age and death to be the result of a greatly increased differentiation of larger organism. * * * If death is the price of differentiation, then after the goods have been delivered, the price must be paid." To prevent a higher organism from undergoing death, would at the same time prevent him from becoming a higher organism * * * Death, as Minot says, is the price we pay for our more complex life. Age and death, though not inherent in life itself, are inherent in the differentiation which makes life worth living.

"Tell me not in mournful numbers
Life is but an empty dream,
And the soul is dead that slumbers
And things are not what they seem.

Life is real, life is earnest,
And the grave is not its goal,
Dust thou are, to dust returneth,
Was not spoken of the soul."

CURRAN POPE.

A BOOK WORTH BUYING.

The report of the Chemical Laboratories of the American Medical Association for 1912 is one of the best books we have ever seen. There is more of real value in its pages for twenty-five cents than any other book that has yet come to our notice. If you are in doubt about this, send a quarter to the American Medical Association, 535 North Dearborn Avenue, Chicago, and it will be sent to you postpaid and you will be convinced.

MINNEAPOLIS MEETING.

In many ways, the Minneapolis meeting was a success. The attendance was smaller than was to have been expected but a rumor had been gotten out that the hotels would be so crowded as not to accommodate everybody and many were kept away on this account. The absence of the large Eastern delegations was particularly noteworthy. The House of Delegates, however, was well filled, the only absentees being from the Southern states.

The Scientific exhibit was of greater interest than ever before. Dr. Bass, of New Orleans, exhibited the malarial plasmodia, which he had grown *in vitro*. The Mayo clinic had the most wonderful series of exhibits showing the possibility of accurate scientific diagnosis by the use of the X-ray and other instruments of precision. Of course, to Kentucky the greatest interest was in the exhibit of intestinal paresites by Dr. South, our State Bacteriologist. Dr. South and her assistants were overwhelmed by the attendance. Everybody was interested in the demonstration of the live and wiggling larvae under the microscope and of larvae and ova attached to the fly's legs. The method of diagnosis formulated in our Laboratory was universally commended as it requires only one-tenth the time of the older methods and is 20 per cent. more accurate. Hundreds of "Kentucky Sanitary Privies" will be built and routine examination of feces for the ova of intestinal parasites will be the rule in all chronic cases in many of the larger hospitals as the result of this exhibit. Dr. South received a certificate of merit from the Committee on Awards, which will hereafter be the proudest distinction in the Kentucky State Bacteriological Laboratory. This is the first award that has ever been made by the American Medical Association to a woman physician for original research work.

The work of the House of Delegates was of unusual importance. Unfortunately, to the newer delegates it presented a "cut and dried" air that was objectionable. A revolutionary change in the Constitution and By-Laws makes all members of State Associations members *ipso facto* of the American Medical Association. This means that every member of the Kentucky State Medical Association is also a *member* of the American Medical Association; and, if, in addition to this, he pays $5.00 for subscription to the *Journal of the American Medical Association,* he becomes a *fellow* of that body. This change has been long contemplated and it is hoped that it will make the profession a more homogeneous one. To us, it has never appeared a movement of special importance and there is always the danger that we shall get so interested and amused by the routine of the organization work that we shall forget that its first function is very much larger and broader than the frame work of the organization itself. It has always been our conception that the profession will do its best work not simply because it is organized but because the job cut out for it is such a tremendous opportunity for good.

The report of the Council on Medical Education, as usual, was excellent. The progress in Medical Education brought about largely through the effective work of its Chairman, Dr. Bevan, and Secretary, Dr. Colwell, is even more noteworthy for the past twelve months than heretofore. Especial congratulations were extended to Kentucky and to the University of Louisville because both our State Board of Health and our University have adopted a two-year preliminary college course as a requisite entrance requirement for matriculates entering in 1914. So large a number of the House of Delegates are alumni of the University of Louisville that this announcement was received with a round of applause.

The report of the Council on Health and Public Instruction was full of interesting matter. It seems a pity that the great subjects considered by this Council received such brief attention from the Reference Committee as compared with the personal element in rival committees, which seemed more interested in the preservation of their respective dignities than in securing National health legislation. The report of the different committees on this subject will be interesting reading to the enemies of the profession and the actual campaign for National health legislation, except in so far as its educational aspect is concerned, will be conducted for some time to come, if conducted at all, by the Committee of One Hundred from the National Society for the Advancement of Science and Federated Women's Clubs. The appointment of Dr. Rankin, the very effective secretary of the North Carolina State Board of Health, as the Southern representative on this Council will meet the cordial approval of the profession. Dr. Rankin is young, progressive and forceful and he and Dr. Woodward, of the Council, have had sufficient experience in securing legislation to be of some use but the purpose of the majority of the Council to influence the Congress at Washington by laboratory methods was ridiculed by every one who had had any personal experience. The education of the public as to the purpose of the profession, the teaching of hygiene and preventive medicine in the public schools and all the rest of our campaign for the education of the public are essential to any far-reaching success but the passing of resolutions in the parlors of Washington hotels and the repeated conferences with those bureaus in Washington, which desire legislation not one-tenth so much for the public good as for the retention of their jobs and the increase of their own prestige are worse than useless. The greatest statesman who has occupied the Presidential chair in fifty years was elected on a platform demanding a National Department of Public Health and President Wilson outspokenly favors such a department. There is no question but that such a department will be created at the next session of Congress unless those in charge of the National program for health legislation in the American Medical Association shall show such a marked ineptitude for the work assigned them as has been indicated by their past performances along this line. The committee on National Health Legislation, of which Dr. John B. Murphy, of Chicago, was Chairman, made a very frank report expressing their inability to do anything without either funds from the Trustees or support from the Council on Health and Public Instruction. The committee asked that it either be relieved or authorized to actually do something. The Reference Committee on Legislation, which seems studiously selected for the purpose, reported discharging this committee before Dr. Murphy had read his report and they amplified their report subsequently with a severe criticism of the National Committee and its methods and of the various Houses of Delegates for the last six years for continuing it. All this personal criticism—much of it inaccurate—would have seemed singularly out of place in a great scientific body had it not been approved by formal vote of the House of Delegates. Unfortunately, the President was compelled to rule out of order a substitute for the report of the Committee and the House was precluded from a vote on the question on its merits. Upon a similar objection by members of the Reference Committee, a simple resolution indorsing the principles of the Owen bill was similarly ruled out of order on the last day of the session. This last resolution was offered by Dr. Oscar Dowling, the distinguished President of the Louisiana State Board of Health.

In the election of officers, the Association maintained the high standard of former years. Dr. Victor C. Vaughan, the Dean of the University of Michigan, was elected President over a field of four other eminent nominees. Dr. Lillian H. South was elected Third Vice President by a unanimous vote after a remarkable tribute to the woman physician in the nominating speech of Dr. A. C. Cotton, the famous pediatrist of Chicago. Dr. W. W. Grant, Denver, who for the past several years has been Chairman of the Board of Trustees, was re-elected unanimously, as was Dr. Lutz, of St. Louis. Dr. Oscar Dowling, of Louisiana, was elected to succeed Dr. C. E. Cantrell, of Texas, as the Southern representative on the Board. Dr. Cantrell was a picturesque figure and his friends regretted his defeat but it was evidently felt by the House that Dr. Dowling was more representative of Southern medical opinion.

The next annual meeting will be held in Atlantic City, Louisville losing by a close vote. The feeling in the Association is such, however, that it will come to Louisville in the near future.

Every doctor in Kentucky is now a member of the American Medical Association. If you will mail $5.00 to it, at 535 Dearborn Avenue, Chicago, as subscription to the *Journal,* you will become a fellow and the *Journal* is worth reading not only to know what the Association, of which you are a member, is doing, but to read the remarkable scientific papers that appear in each issue.

We shall look forward with the utmost hope to the success of the plans and principles adopted at Minneapolis and shall do our best to support even those of whose efficacy we are the most doubtful, but we do not believe anything is lost by frank, impersonal discussion of it all and we have absolutely no doubt in the final result of the work of the medical profession as long as it can keep our great Association a purely democratic body.

Lead Colic in Workers on Brass.—Althoff describes two severe cases and calls attention to the prompt benefit derived from a suppository with 0.0005 gm. atropin, suggesting the use of one or two such suppositories in all cases of lead colic. The poisoning in his cases occurred from years of breathing minute amounts of lead in working with emery and on brass which contained 1 per cent. lead.

EYE, EAR, NOSE AND THROAT AT MINNEAPOLIS.

The American Medical Association has perhaps never met in a city better adapted to entertain such a body than Minneapolis. By reason of its many new buildings with modern equipment, situated in the beautiful campus of the University of Minnesota, the commercial exhibit hall and the meeting places of the various sections were in close proximity to one another. Surrounded by shade trees and green lawns, away from the noise of the city every section was supplied with ideal quarters in which to carry on the scientific sessions. The profession of Minneapolis and especially their committee of arrangements are deserving of great credit, for at no time has the writer seen every detail so well looked after.

In point of attendance the meeting was less successful, the official figures of the Bulletin showing that only a little over 3,000 registered.

The sections of Ophthalmology and Otolaryngology in which the writer is especially interested showed a considerable falling off in attendance, the absence of the Eastern contingent being noticeable. Whereas the attendance of the Ophthalmological section usually ranges from 400 to 800 the attendance of this section at Minneapolis was less than 300, while the Otological section, which usually has from 300 to 500 in attendance had less than 200 this year.

The scientific discussions of these two sections dealt with interesting and important subjects.

The Ophthalmological section devoted some time to the discussion of the campaign started last year by Jackson to improve the methods of preparing the medical student in the study of ophthalmology and of encouraging high standards of requirements in the education of specialists on the subject. Some attention was also given the question of glaucoma and its relation to increased arterial tension. Although cases have been seen in which arterial tension was normal in cases with intraocular tension very much increased, most of the speakers to this subject had noted high arterial tension coincident with increase in tension in the eye ball. This observation has encouraged the employment of constitutional measures as an aid in the treatment of glaucoma. Several speakers reported good results from large doses of chloride of calcium, 30 grains, three times daily. The surgical treatment advocated by most members was the scleral trephining; the results of this operation having been uniformly gratifying. The La Grange operation had its advocates with reported favorable results.

The symposium on Trachoma created more than usual interest. Dr. John McMullen, Surgeon U. S. Public Health Service of Baltimore, discussed this dangerous contagious disease from the standpoint of its entrance into our country through immigration. He pointed out the methods employed in New York to prohibit aliens suffering from trachoma entering our country. Dr. Kerr, also of the U. S. Health Service, took up the question of trachoma among the Indians. Thirty-nine thousand Indians in the United States were examined with the result of finding over 17 per cent. suffering with trachoma. He attributed its prevalence among the Indians to their ignorance of hygiene and sanitation and expressed the belief that the Indians are likely to prove a means for widespread dissemination of trachoma in the West.

Our Dr. J. A. Stucky presented a most interesting and detailed account of this experience in the Eastern Kentucky mountains with trachoma, illustrating his discussion with lantern slides. He spoke of the unmistakable evidence of the infectiousness and destructiveness of the disease and of the difficulty which confronts us in an endeavor to eradicate the disease, as the Kentucky State Board of Health is without the financial means so necessary in coping with this chronic disease.

It was the consensus of opinion of all members present that trachoma is on the increase in the United States and that energetic efforts should be directed towards limiting the spread of the disease. It was advocated by many that health boards should demand a report of trachoma cases in order that measures may be instituted to prevent further dissemination of the disease.

In the section of Otology the relations of diseases of the ears and the accessory nasal sinuses to other diseases furnished the topic of chief interest. It was pointed out that general diseases are frequently dependent upon the purulent diseases of the ear and nasal chambers—disorders of the stomach and intestinal tract, headaches, insomnia, rheumatism, etc., frequently being incurable unless the trouble in the sinuses be corrected. It was also shown that diseases of the ear, nose and throat, may affect the nervous system by direct extension as in brain-abscess or reflexly or by their otitic origin.

Cases of retrobulbar neuritis and other conditions of the optic nerve which have always been veiled in obscurity are now believed to be due to affections of the nasal accessory sinuses—especially of the posterior ethmoid cells.

The tonsil operation as usual received its share of attention as did the mastoid operation.

Dr. Frank Todd, of Minneapolis, was elected to preside over the Ophthalmological Section at the next meeting, and Dr. Bert Shurly, of Detroit, was elected chairman of the Otological section.

Adolph O. Pfingst.

SCIENTIFIC EDITORIALS.

THE EVOLUTION OF THE TRAINED NURSE.

In the *Public Health and Nurses Quarterly,* January, 1913, in an article on a New Field of Usefulness for the Graduate Nurse, I endeavored to make clear the need of the trained nurse in the rural districts and in the mountains to assist the medical officer in relieving the unsanitary conditions in the homes of the people. In a recent issue of the *Medical Review of Reviews* appears an editorial, which I think of sufficient importance to be reproduced in The Journal. The trained nurse question is one that demands more attention than is being given it by the average practitioner.

That portion of the editorial in the *Review of Reviews* relating to State Registration of Nurses and the elevation of the educational standard is especially apropos at this time. With the development of preventive medicine, the function of the physician is undergoing a marked change. The responsibility is being shifted from the personal care of an individual sick person to the responsibility for the health of the people en masse.

Along with this alteration in the conception of medicine there is an evolution of the trained nurse. No longer is she merely a vassal of the hospital, trained as a matter of economy to insure the care of the patients within the hospital. Her field of service widened until to-day we have three distinct classes of nurses: (1) The nurse who is to care for the sick. (2) The nursing teacher whose duties are limited to those in health. (3) The visiting nurse, who combines the functions of the old fashioned nurse and the teacher. The field of nursing endeavor has grown beyond the confines of the hospital and extends into every walk of civic and social life.

Physicians themselves are utilizing nurses for making routine examinations in blood, urine, stomach contents, and for handling the X-Rays. Hospitals are taking advantage of her ability to serve as anesthetists, social service workers and administrators. Increased variety of public instructions, such as sanatoria, creches, convalescent homes, milk stations, are giving her new opportunities for expansion. The municipalities are offering her service in school inspection, milk depots, and bureaus that have to do with the inspection of children. Industrial institutions, such as factories, department stores, work shops, afford her excellent opportunities of doing welfare work in preserving the health of employes.

The future of nursing as a profession is bright; its progress is along preventive lines. The new school of nursing deserves the encouragement, commendation and support of the new school of medicine.

What constitutes a nurse?

"The term 'nurse' is comprehensive in its meaning and from long association is applied to those who take care of the sick for a monetary consideration. The nursing profession has developed in a most remarkable way from the days of the Sairy Gamp type to the highest form of intelligent womanhood. It is desirable to protect the trained nurse from the criticism, suspicion, and distrust which results from confusing her with the half-trained or untrained women, who are endeavoring to pose as fully equipped nurses.

"A recent bill introduced into the New York Senate and Assembly desires to restrict the use of the term Nurse to graduates from training schools connected with hospitals or sanitaria registered by the Regents and having a course of at least two years. The term Nurse or Registered Nurse is not to be used by persons to whom such certificates have not been issued. The purpose of the act is to safeguard patients so that they may not be imposed upon by women representing themselves as nurses while they lack the requisite training and experience.

"It is exceedingly difficult to overcome the historical usage of a word or to offset tradiotinal ideas and hygienic content of this term. The registered nurses deserve protection. The medical profession will thus have its interests safeguarded, while patients will be more certain of securing the high standard of nursing attention for which they are seeking. There is nothing in this proposed law to prevent the performance of services in caring for the sick or injured by any person as a trained attendant. The economic consideration is important in that trained nursing service will receive its usual stipend, while the trained attendant will receive such compensation as her services and training would warrant.

"At the present time there are over a hundred thousand nurses in the United States. Only one out of ten has been trained in a hospital. One correspondent school boasts of three thousand in its graduating class, while in 1912 in 123 registered training schools for nurses there was only a total of 3,323 pupil nurses, including those in the graduating class. It is thus apparent that 90 per cent. of the women now calling themselves nurses have had inadequate preparation for their work. They have had short courses of mere book work without practical training experience.

"The difference between the theoretic training, practical experience and responsibility of the trained nurse and the practical attendant is obvious, and the time has arrived to throw a mantle of protection over the hospital trained nurse. There is no intent to develop nurses who shall supercede physicians but the added demand for thoroughly trained nurses in hospitals, in private homes, and in civic and social welfare makes it important that a high standard of intelligence, a broad experience, and wise discretion should be developed.

"There is also a great need for the trained attendant, particularly by those who are unable to afford the high priced trained nurses. The field will not be limited, but the public will be enabled to secure exactly the type of services which it demands without imposition or nursing abuse.

"The real weakness of the bill introduced lies in the fact that no penalty clause is introduced and in consequence there would be little restrictive value in the enactment save after investigation and prosecution of individual cases."

J. A. Stucky.

ORIGINAL ARTICLES

ANESTHESIA AND ANOCI-ASSOCIATION.*

By George W. Crile, Cleveland, Ohio.

The object of anesthesia is that of protecting the nervous system hence the entire body against the psychic and the traumatic stimuli inherent to surgical operations with a minimum of injury from the anesthetic agents.

Anesthetics may be divided into two great classes:

1st. Those that anesthetize the brain.

2nd. Those that anesthetize the peripheral nerves.

Among those that act on the brain are those introduced by inhalation as ether and nitrous oxide, and those that are given hypodermically as morphine and scopalomine.

Hypodermic injections of morphia and scopalomine to produce general anesthesia violate a cardinal principle of safety by irrevocably staking a life on an empyric judgment as to the exact quantity that will give sufficient anesthesia on the one hand and will not be an overdose on the other hand.

Turning to local anesthesia alone and spinal anesthesia alone we find that many operations can not with safety be thus performed and the psychic factor is not controlled.

Turning to inhalation anesthetics alone we find in ether and in nitrous oxid the psychic factor controlled during the operation but not before operation. If hypodermic anesthetics are wholly rejected on principle, and local and spinal, and inhalation anesthesia only partially answer the requirements of ideal anesthesia, there is at present no single *ideal* anesthetic. Obviously we can more nearly approach the ideal by *combination* of these agent.

What should such an *combined* anesthesia accomplish? What is ideal anesthesia? It should bring the patient to the operating room in a tranquil frame of mind; it should put the patient asleep free from disagreeable or oppressive sensations; it should prevent traumatic impulses of the operation from reaching the brain; it should prevent pain impulses from the wound reaching the brain after the operation; and it should not do any chemical damage to the red corpuscles, the liver, the lungs, the kidneys, the phagocytes or to the immune forces of the body.

This is anoci-association.

Can we now approximate this ideal? Yes. How can it be accomplished? Let us consider the three phases, viz., before operation, during operation, after operation. Tranquility before operation is safely and efficiently secured by the personal equation and by the personal attention of the nurses, the surgical assistants, and the surgeon, supplemented by a gradual dose of morphia and scopalomine (the morphia and scopalomine is never given, however, in the aged or the young, nor in the physically depressed. The average dose is 1-6 morphia and 1-150 scopalomine. If the operation can not be performed under local anesthesia, then we have to make the choice of the inhalation anesthetic between the fat solvent anesthetics—ether and chloroform and the anoxyhemia anesthetic—nitrous oxid.

Ether produces anesthesia by virtue of its power of dissolving the liquids of the brain—thereby interfering with or blocking nerve conditions; nitrous oxid produces anesthesia in quite another way, viz., by interfering with the use of oxygen by the brain cells up to the point of producing unconsciousness. Normal brain cell action is of course carried on as a process of oxidation; the stored chemical energy in the brain is through oxidation released. Ether anesthesia on the other hand has been shown to prevent to only a relatively slight degree the use of oxygen by the brain cells and hence restrains but slightly the conversion of potential energy into Kenetic at the expense of the combustible substance in the brain cells. It must be here recalled that inhallation anesthesia is but a veneer. If all of the brain cells were put to sleep by anesthesia—the patient would be dead. Only a small part of the brain is put to sleep and the great mass of the brain is wide awake; but the patient being unconscious no voluntary action during the operation is seen, but the involuntary activity of many voluntary muscles is seen in the increased muscular tone even rigidly when rough manipulation is being made, and the muscles of the respiratory system and the circulatory systems are alert and active. We must then understand that under inhalation anesthesia the vast army of brain cells are wide awake and powerfully activated by the trauma of the operation. Though paralyzed, though unable to make voluntary movements, the awake brain cells are actively using up their potential energy in a vain effort to escape from the physical injury of the operation just as actively as if no anesthesia had been given, as if the patient were tied down and tortured. In both nitrous oxid and in ether anesthesia the injury impulses reach the brain but nitrous oxid acting like a fire extinguisher by limiting the supply of oxygen—to that extent preserves the brain cells from being burned up by the injury of the operation. The physical injury of the brain cells on equal trauma is more than three times as much under ether as under nitrous oxid. The proper balancing of nitrous oxid and oxygen supplies a constant supply of oxygen. The inhalation of nitrous oxid turns down the flame of life and the steady controlled stream of oxygen is the pilot light. Under ether the flame is burning high. Hence the administration of nitrous oxid is a delicate empyric act which only long training at the hands of an expert can safely teach efficiency. No amount of scientific knowledge, no type of apparatus can substitute for the delicate acquired art of administration. The novice, however, scientific, tends to either turn on the oxygen flame of life too high and at once the patient moves, or he turns off the pilot light and the patient dies. The art of administration of nitrous oxid can no more be acquired by reading, or by theory than can one become a violinist by studying the science of sound. That is to say, that except in emergencies, the degree of M. D., gives the legal right but certainly not the moral right to administer nitrous oxid anesthesia. Ether on the other hand is so nearly fool proof that almost any novice is safe if for no other reason because the bystander usually comes to his rescue. Perhaps some day there will be developed such an understanding of the importance of skilled anesthetists that the innocent victim—the patient—will be protected against the inevitable mistakes of the novi-

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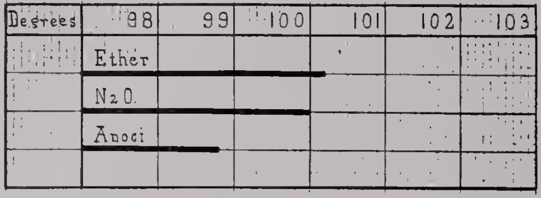
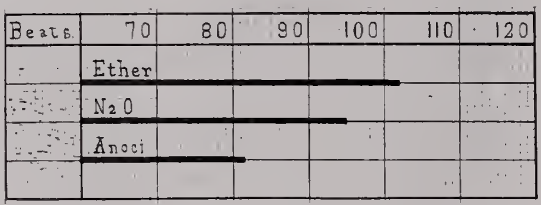
*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

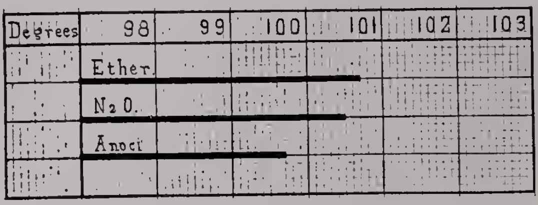


The Temperature.—Each heavy line represents the average 5:00 P. M. temperature of ten patients during the first four days after operation.

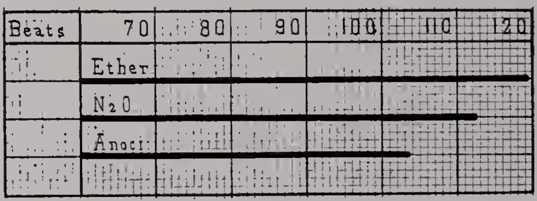


The Pulse Rate.—Each heavy line represents the average 5:00 P. M. pulse rate of ten paeients during the first four days after operation.

Abdominal Hysterectomy.—Comparison of the effects on the temperature and pulse rate of patient operated on (1) under ether, (2) under nitrous oxid, and (3) under the anociassociation method.



The Temperature.—Each heavy line represents the average 5:00 P. M. temperature of ten patients during the first four weeks after operation.



The Pulse Rate.—Each heavy line represents the average 5:00 P. M. pulse rate of ten patients during the first four days after operation.

Thyroidectomy.—Comparison of the effects on the temperature and pulse rate of patients operated on (1) under ether, (2) under nitrous oxid, and (3) under the anociassociation method.

tiate in anesthetics and every patient will be skilfully anesthetized. Suppose for example that the mishaps of anesthetics were brought out into the broad daylight like those of the public service corporations where a citizen can scarcely be jostled without strong protest—suppose the conductor of a street railway, because of want of skill attached to the tongue of a passenger, dragged it out crushed and bleeding, what would the public say?—or if he were almost suffocated and had to be resuscitated, or if he were killed outright what would the public say? Because a citizen happens not to be riding in a street car, but in a hospital for a surgical operation should either his comfort or his life be endangered by incompetent service?

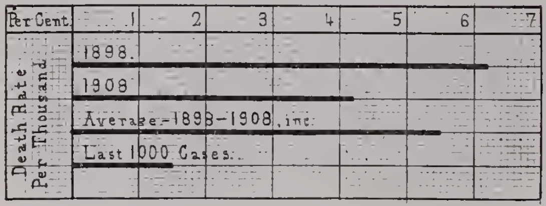
Especially when it is only a matter of dollars and cents and organization that will prevent this? But it may be argued that the hospital interne must learn the art of giving anesthetics and so the patient and the anesthetics are placed in his hand to grope his way. How much faster, how much better would he learn the art of anesthetics if he had at his elbow the expert hospital anesthetist to coach him and at the same time protect the patient. The existence of the incompetent anesthetist is due to the same inertia and fetich of precedent and custom that for so long and even now impelled municipalities to drink and enjoy their typhoid sewage. Then again in operations in the presence of infections it will be seen by tables to be presented, that ether depresses the immunity of the patient and so plays the hand of the infective agency against the patient.

Nitrous oxid is negative as to immunity.

My associate, Dr. W. E. Lower, and I have had no ether death in over 15,000 ether anesthetics. My experience with ether in the hands of special anesthetists has been most satisfactory, and has proven to be no great stress to the patient in going under it, and were I to consult the comfort and convenience of both the anesthetist and myself and to consider the operation as a technical performance on dead anatomy forgetting the inevitable chain of consequences that are entirely outside of the control of either good anesthesia or careful surgery—forgetting the physical chemical changes inherent to this powerful but solvent drug, then I would take counsel with comfort and continue ether.

The disadvantages of nitrous oxid have been the technical difficulty of administration, its greater cost, and the want of muscular relaxation. Each surgeon, each anesthetist must take into account his personal equation, the environment in which he is placed in making his choice which apparently lies between the Scylla of the nausea, and chemical injury of ether, and the Charybdid of the technical difficulty of nitrous oxid. But there has been recently introduced another factor that throws a new light on the problem and gives us a new hope and that is the new principle of operative surgery known as anoci-association, already referred to.

Anoci-association has given us a new control over the destiny of a surgical patient. It is at once obvious that this principle is as important for ether anesthesia as for nitrous oxid. If used in conjunction with ether it protects the brain, hence the personality of the patient from the damaging afferent traumatic impulses; it very greatly diminishes the amount of ether required, hence minimizes the chemical damage of ether—especially important is this in the presence of infection. Anoci-association with ether playing the role of inhalation anesthetic is excellent. On the other hand nitrous oxid urgently needs anoci because the local anesthesia prevents muscular rigidity, the great defect of nitrous oxid anesthesia especially in abdominal operations. This measurably widens the margin of safety in nitrous oxid anesthesia and greatly lessens the technical difficulty. We will further discuss this point later. If nitrous oxid for whatever reason does not accomplish sufficient anesthesia then a few drops of ether may be added. There should be no reason why the nitrous oxid anesthetist should strive to avoid the needed life from ether as we are endeavoring not to exploit nitrous oxid but to give a good anesthetic. And the end of the benefits are not yet. Not only is the immediate operation made shockless but by blocking with quinine and urea hydrochloride the post-operative gas pains and post-operative temperature and pulse reaction may be minimized or eliminated. Post-operative gas pains follow only those operations that open the peritoneum, even opening a small hernial sac causes this phenomenon. There is pain, distension, rigidity, nausea and anorexia, sometimes vomiting. The phenomena are identical to those of acute infection. In the light of our biologic law of adaptation we would interpret this as being the adaptive response to an adequate stimulus of opening the peritoneum. Nature does not take any chances on the asepsis of the surgeon, but regards every opening into the peritoneum as infected and has set in motion the whole machinery of overcoming a local infection. Nature apparently does not recognize the surgeon or does she know him too well? This explanation can be easily put to a test as follows: If the brain could be disconnected from the field of operation during the operation and for one or two days after it, then there could be put in operation no adaptive response to infection—that is to say, there could be no gas pains. This can be done by complete local anesthesia with 1-400 novocaine in addition to general anesthesia, and the use of 1% of quinine and urea-hydrochloride injected so carefully and completely that not a single nerve filament from the wound to the brain is left unblocked. Included in this block is the abdominal wall, the broad and round ligaments, the meso-appendix, in general it includes the general field of the operation. This is a preventive of post-operative gas pains, and curiously also of the so-called aseptic wound fever. If post-operative distension is an adaptive response sent out by the brain in response to the opening of the abdomen, can we not explain the intra-abdominal tension in the course of abdominal operations on the same law of adaptation? Let us see. I have now performed a large series of abdominal operations under nitrous oxid anesthesia on the principle of anoci-association and have found that if the brain is cut off from the field of operation there is not the slightest adaptive response. When perfectly carried out there is in the vast majority of cases no necessity for any intra-abdominal pads and almost no need of retraction. The adbomen is in the condition—excepting for the respiratory movements—of a recent cadaver. Not only does the surgeon have the mechanical advantage of complete control, but of infinitely more importance is the complete immunity of the patient from shock. The post-operative chart like the post-operative clinical course and post-operative comfort of the patient are all alike—all negative.



Mortality Table.—The lines indicate the mortality rate in per cent per thousand of patients operated on in Lakeside Hospital at various times, the lowered mortality in the last 1000 cases (Crile cases only) is most largely due to using the anociassociation method.

We will now show some of the practical results attained by anoci-association with nitrous oxid, novocaine, and quinine and urea, making up the team, and compare these with ether alone and with nitrous oxid alone.

From the results it will be seen that anoci-association under the all star cast of nitrous oxid, novocaine and quinine and urea gives the best results. Operations under the old ether, raw tissue injury plan may be compared with operations under anoci by considering two methods of rescuing a shipwrecked passenger. In one instance the passenger is on the tense and crowded deck fully aware of the danger. At last as the ship goes down he plunges into the water not knowing whether it be to life or to death, after a long struggle he is rescued but is broken and exhausted. This is ether anesthesia. The scene on deck is the anteroom of the operating pavillion, the plunge into the water is ether anesthesia, the strong exhausting motor effort in the water is the equally strong but futile motor effort of the awake brain cells, goaded by cutting and bruising of naked nerves—the broken, beaten exhausted state after rescue is a shocked patient. On the other hand another passenger, while asleep in his cabin, is gently carried up on deck, lowered in a life boat, and taken aboard the rescue ship to a quiet cabin. This is anoci-association. It might be added that if the comparison of the first instance involved the first untutored attempt of the interne in administering ether anesthesia the simile could only be complete by first sandbagging the passenger, then throwing him overboard.

The purely operative phenomena are due to psychic and to traumatic stimuli; if both the psychic and the traumatic phenomena be excluded then there is no exhaustion and no shock and in consequence there is a diminution of the immediate post-operative morbidity and immediate mortality and a consequent diminution of post-operative neurosis and post-operative disability. This is the end and purpose of *anoci-association.*

CASE REPORT.

By J. F. Jones, Mt. Sterling.

I had a very unusual case this morning. A farmer living four miles from town chews "long green' tobacco. This morning he took part of a leaf into his mouth and felt like he had a mouthful of thorns; he spit it out as quick as he could and found in the leaf a ball that looked like those a spider or caterpillar lay their eggs in. His mouth smarted and burned causing considerable pain. He came to my office. On examination of the tongue, gums and inside of cheeks there were numerous red spots nearly as large as a pin head and in these spots I could see the bristles or little spikes that came off the ball. I removed forty or fifty of them using small forceps. Some of them were close to a quarter of an inch long.

VALUE OF A PURPOSE.*

By Rev. H. W. Browder, Franklin.

Ladies and Gentlemen, Members of the Staff and Faculty: Young Ladies of the Class:

It is with no ordinary degree of interest that we assemble here this evening, to observe another commencement of this benevolent institution that has already proved an ornament and blessing to our community and gives promise of yet greater things to come, and to launch two worthy young lives out into the great sea of life's activity. Any institution that looks to the amelioration of humanity is worthy the confidence and esteem of the community.

The institution that, in addition to immediate relief of human suffering, prepares and sends out trained workers into the various fields of life, radiating its benign influence in every direction is worthy of double honor.

The launching of a great ship is heralded across the continent as a great event—and it is a great event as the majestic craft glides from its earthen cradle to the arms of mother ocean for which it has been built and bounds like a thing of life and beauty over rolling billows to visit the ports of every land.

By as much as life is greater than a ship, by so much is the launching of a life greater than the launching of a ship.

When a soul has fixed her choice upon her life work and bent her highest energies to preparation for the task and come to the accomplishment of a purpose the greatest difficulty has been overcome. Indeed, I may say that the definite purpose once fixed in the human heart is not only the *sine qua non* of the successful life, but to a very large degree is the successful life.

It is the purposeless life, the life without any definite end or aim in view, the life that drifts, blown north or south or east or west or nowhere at the mercy of the gale that is a failure.

Like the derelict at sea, it may drift now here, now there with wind or current until waterlogged and sodden, neither afloat nor sunken, it becomes a menace to every craft that sails the deep, nor sinks perhaps, until it has scuttled some worthier vessel which it draws with itself to the ruin of the fathomless abyss below.

"One ship sails east and another sails west
By the very same wind that blows:
'Tis the set of the sail and not of the gale,
That tells which way she goes.
Like the gale of the sea, is the wind of fate,
As we journey along through life:
'Tis the set of the soul that determines the goal
And not of storm nor of strife."

With a definite purpose fixed in the soul, with a vision of the end in view, with a sense of the world's need of me and a consciousness of the soul's power, by earnest and persistent effort to accomplish something worthy, life advances steadily and surely to the perfection of its aim, nor can it be a failure.

It is a glorious privilege conferred by the Giver of life that each individual may determine her own character:—yes, more, if there can be more than character—her own destiny.

It was this fixedness of purpose that led the Father of His Country to forego the ease and self-indulgence of a delightful home and pleasant surroundings to cast himself a sacrifice upon the altar of his bleeding country and so become the founder of our great nation, the land of liberty and an asylum for the oppressed of every nation and country.

It was this that led the Maid of Orleans, dreaming in the forest of Dorremy and hearing voices and seeing visions of angels, beckoning her to become the deliverer of her down-trodden country to lay aside what the world was pleased to call her maidenly modesty and mounting her snow white charger, lead her disheartened countrymen to victory, even the overthrow of the enemy of her country.

It was a vision like this, with respect to the reward—not the reward of silver and gold which perish, though they be tried in the fire—but a spiritual reward, a kingdom and a nation of righteousness that led Carey and Judson and Livingston and Lambert and Young J. Allen and Dr. Yun and a long array of martry-heroes to renounce home and the sweet ties of friendship and native land and tongue to win the Orient and the isles of the sea for King Jesus.

Young ladies, I greet you happy this evening that you have exercised your right of choice and fixed a purpose and that already your life work is well begun, and you now come to enter actively upon the duties of your chosen vocation: and you have chosen well. Your's is a noble vocation: a line of activity that has been graced by the lives of many of the worthiest and bravest and truest heroes that the world has seen.

In your company are the illustrious Howard, who could forego the pleasures of wealth and the luxury that wealth brings and devote himself and his means to the relief of the suffering and the uplift of down-trodden and degraded humanity: with Clara Barton, who could renounce what the world holds dearest and sweetest and give her life to the ministry in behalf of the dead and dying in hospital ward or on the battle field, and while accomplishing seemingly impossible tasks herself, could enlist others and so organize and perpetuate one of the noblest and most helpful organizations that man or woman has devised: with Florence Nightengale, whose dauntless courage and unfailing energy and varied culture with wise head and good heart gave her valuable life to the alleviation of suffering humanity and the introduction of far-reaching measures in prison reforms and humanitarianism in the army hospitals so that no encyclopedia will be henceforth considered complete which does not take into account her influence and beneficence.

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*Read before the Nurses' Graduating Class, Guthrie Sanitarium, Franklin.

Time would fail us to even enumerate the long line of heroes who have given life and substance to uplift our race, like the blessed Savior who went about doing good and himself declared, came not to be ministered unto but to minister, not to be served but to serve, whose whole life was a mission of mercy and an errand of love.

Nor will yours be a life of ease. Through the glowing hours of the noonday to the twilight's dewey eve: to the weary hours of the lonely midnight watch into the rosy morn and until high noon has come again: with patience must you watch and serve.

It may be yours to meet the new born infant at the threshhold of life and welcome the new immortal to this strange world of ours. It may be yours to watch at the bedside of the dying and point the soul trembling on the brink of eternity to the One Redeemer who can save to the uttermost, and to speed the parting soul as he takes his flight from the shores of time: and then with soul and body strained to the utmost tension, yet holding self in abeyance become the comforter of the mother, bereft of her first born son, of the wife whose companion has fled to the great beyond and gone out of her life forever, of children lingering motherless on the shores of time.

Sometimes you may regale your weary spirit in the triumphant faith of the meek disciple who upon a bed of languishing and pain, waiting the deliverance of the Master and the convoy of angels, shall unbosom her soul to you and tell of the glorious victory of faith and sins overcome through the Redeemer.

It may be yours to watch alone through waning hours of the night, while the delirious vision of the disordered mind raves on in the the agony of despair; whose heart piercing shrieks rend the stillness of midnight: It may be yours to be the happy companion as well as attendant of some gentle refined spirit whose chaste soul, shall seem to join heaven to earth and reveal to you the fairest vision of earth—a chaste soul freed from the dross of sin and suffering peacefully for the Master's sake.

It will often be yours to bring order out of confusion, attractiveness and beauty out of unsanitary and pestilential conditions, cleanliness out of filthiness, rest and quiet out of unrest and disquiet, hope out of despair. I would not discourage you, no true life is an easy one: She who would become a blessing to others has no time for softness or self indulgence.

The soul that bravely meets responsibility and succeeds will always have work to do.

But the consciousness of duty well done will always bring an abiding sense of pleasure and the heart that is truest to self will be truest to others.

I rejoice that we are coming each year more fully into the appreciation of your high calling, and I could heartily wish this evening, that every mother who must bring up children could have such training as you have received, that there might be fewer sick and suffering babes, fewer weak boys and girls—fewer men and women who can ascribe their physical inefficiency to the ignorance or neglect of parents who knew not how or what to do.

Again I congratulate you on your good fortune in falling into such chaste and excellent surroundings, where you could receive this careful training from skilled instructors and what is even more, could at the same time have the influence and companionship of stalwart Christians, who have helped you in the development of strong faith, high ideals and noble aspirations.

Go then upon your chosen mission with brave hearts and true: ever regard your calling as divine: rejoice in your ability to minister intelligently to the sick and suffering of earth and while the laborer is worthy of his hire, look not for your highest compensation to the rewards of men, but rather to an approving conscience and to a just and loving Father.

"Life is before you: from the fated road
You cannot turn: then take ye up the load.
Not yours to tread or leave the narrow way,
You must go o'er it meet you what you may.
Gird up the loins prepare you for the deed
Angels and fellow spirits bid you speed."

And now, as we come to the parting of the ways, and our lives radiate to different points of the compass, let me say, We shall miss your gentle ministry and companionship—strangers may fill your places in the Sanitarium and in the church and Sunday school, but not in our hearts.

In behalf of the community in which you have served so faithfully, let me assure you that we shall follow you with our prayers and sympathy and an abiding interest in your welfare, rejoicing in your success, sorrowing in your disappointments.

And now good-bye, which is to say, God speed you on your way and keep you right. May joy your every service crown and may your pathway all be bright."

And when weary with long years of serving you hear the Master calling, may his be the blessed words, "In as much as you have done it unto one of the least of these you have done it unto me: enter thou into the joy of thy Lord."

THE BLOOD-PICTURES IN TUBERCULOSIS.*

By Everett Morris, Sulphur.

Examinations of the blood in tuberculosis have been reported by many investigators since the first studies were made of the blood. A lack of technique and clinical detail in the reports of the pioneer haematologists render their work well-nigh useless when compared with the modern methods now in use. While there is yet a disparity among some reports of our modern authorities, it is our belief that a large part of this is due to a lack of uniformity in classification along with a difference in altitude. This, however, does not materially effect our conclusions based on a limited number of reports. It might be noted that this subject will be largely a resume from literature; as my experience in blood work is too limited from which to draw any reliable conclusions. Furthermore, there is a great dearth in literature dealing with blood-pictures in tuberculosis; but an effort has been made to collect and correlate the findings of some of the men doing this special work in order to present before this Association the changes in the cellular elements of the blood wrought by tubercle bacilli.

HAEMOGLOBIN.

There is a constant reduction of haemoglobin in tuberculosis of the bone; but in tuberculosis of the lungs the reduction is more pronounced in Stage III, following the classification of the National Association for the Study and Prevention of Tuberculosis, Stage I showing a slight decrease while Stage II is normal.

ERYTHROCYTES.

In the study of the red corpuscles we find the count within normal limits. When classified, Stage II shows the highest count, Stages I and III follow respectively. The high count in severe cases is explained on the ground of concentration of the blood due to night-sweats, diarrhoeas, excessive expectoration or toxins generated within the body. According to Zuntz, the increased number of erythrocytes in high altitudes is due to hyperplasia of the bone-marrow. In cases doing well or ill under treatment Ullum and Craig found an increase in erythrocytes while the converse was true of haemoglobin. The color-index which shows the relation of the red cells to the haemoglobin is found to be below normal in all stages whether under treatment or otherwise.

LEUCOCYTES.

In tuberculosis there is a distinct increase in the number of leucocytes as the disease progresses from Stage I. If there is a decrease in the number of leucocytes in advanced cases it is an unfavorable sign; while a sudden increase is presumptive of cavity formation.

TABLE I.—NORMAL DIFFERENTIAL COUNT.

Investigators	Polymorpho-nu-clear neutrophiles Per Cent	Transitional Per Cent	Large mons-nuclears Per Cent	Large Lymphocytes Per Cent	Small Lymphocytes Per Cent	Eosinophiles Per Cent	Basophiles Per Cent
Miller & Reed	64.4			17.5	11.8	5.8	0.53
Webb & Williams	54.			24.	19.	0.2-4	0.4
Da Costa	60-75	4	8		20-30	0.5-5	0.5
Wood	65-75	2-4	1	22	25	0.2-4	0.5
Naegeli	65-70	3	5	22	25	0.2-4	0.5
Ewing	70-72	2	4	22	25	0.2-4	0.5-2

That we may realize the significance of the differential count and especially the system introduced by Dr. Joseph Arneth, of Germany, in 1904, for the purpose of drawing some diagnostic and prognostic conclusions from the study of the multi-nuclear leucocytes, it is necessary to mention the biology of the white cells.

There are two theories as to the origin of the leucocytes. Ehrlich claims that the polymorphonuclear neutrophiles, esinophiles and basophiles are derived from their corresponding narrow-cells and that there is never a transition from lymphocytes to the polynuclear forms. The lymphocytes develop from the various lymphoid organs and tissues: pass through the various types of lymphoblasts but never into the types of cells with granular cell bodies.

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*Read before the Kentucky State Medical Association, Louisville, Tuesday, October 29, 1912.

Th large nononuclears and transitional cells are separate entities. The former are derived from the marrow, while the latter, probably, are derived from the former. Both, in turn, are transformed into neutrophiles.

Uskow, of Russia, leads those who hold to the theory that the neutrophiles are frequently derived from lymphocytes and the so-called transitional often represent a stage between these two types of cells.

ARNETH'S BLOOD-PICTURE.

Arneth claims the myelocyte is the progenitor of the polymorphonuclear neutrophiles and that the increase in number of nuclei of these cells is a result of age. The mononuclears representing the young inactive cells; the polymorphonuclear the ripe and effective ones capable of producing more antibodies, consequently more immunity. Upon this theory suggested by Metchnikoff, Arneth has established his blood-pictures. He divided the polymorphonuclears into five classes according to the number of their nuclei. By placing these in an horizontal row beginning at the left with Class I with only one nucleus and ending at the right with Class V with five or more nuclei he made his normal neutrophile blood-picture with the following percentages:

Class I.	Class II.	Class III.	Class IV.	Class V.	Index.
5 per cent	35 per cent	41 per cent	17 per cent	2 per cent	60.5 per cent

In the study of the blood in tuberculosis he found an increase in the number of young cells belonging to the first two classes and a decrease in the matured cells in the last three. This change he calls a shift to the left; thus, indicating a definite reaction on the part of the organism to the infection along with a lowered resistive power on the part of the patient and consequently an unfavorable sign. On the other hand, a shift to the right with an increased number in the last three classes and a decrease in the first two, he regards as an increase in resistive power and is therefore a favorable token.

For this very complicated method an arbitrary index has been introduced by Bushnell and Trenholtz by adding together the percentages of the first two classes and one half of class three. This has been generally accepted as it gives a concrete idea of the variations found in the nucleus of these phagocytic cells. The normal index is placed by different observers at from 45% to 67%. These representing the minimum and maximum.

Table II shows the average normal neutrophilic blood-picture done in U. S. A. at different altitudes.

Arneth's Blood Picture	Class I. Per Cent	Class II Per Cent	Class III. Per Cent	Class IV. Per Cent	Class V. Per Cent	Index Per Cent
Minor & Ringer	2.5	18.2	55.6	18.6	5.1	48.5
Webb & Williams	8.	36	41.	11.	1.	64.5
Miller & Reed	5.	26.	36.	28.	5.	49.

Arneth calls attention to the shift to the left regardless of the total number of leucocytes in tuberculosis.

Minor and Ringer report one hundred cases of tuberculosis classified by Dr. Minor from his knowledge of their clinical and prognostic condition into good, medium, bad and very bad cases, irrespective of any other classification. Rr. Ringer, who made the counts, knew nothing of the prognostic outlook. How well his findings confirm Arneth's conclusions will be seen in Table III.

	Class I. Per Cent	Class II. Per Cent	Class III. Per Cent	Class IV. Per Cent	Class V. Per Cent	Index Per Cent	Leucocytes
Average of 10 normal persons	2.5	18.2	55.6	18.6	5.1	48.5	
Average of 30 good cases	4.5	24.5	46.	22.	3.0	52.69	79.88
Average of 30 medium cases	5.5	25.5	48.	18.5	2.5	54.85	98.27
Average of 25 bad cases	13.5	38.5	36.5	10.5	1.0	70.82	92.58
Average of 14 very bad cases	24.	45.5	25.0	5.0	0.5	88.03	207.00

This shows very beautifully the shift to the left progressively increasing as the cases become more serious. It also pictures the indices with remarkable conformity to the clinical classification and subsequent history.

As to the reliability of Arneth's blood-pictures, Miller and Reed say, "We feel that in the study of the nuclear blood-picture, we have obtained information which is of the greatest value in tuberculosis. The changes noticed are more constant and much more so than are many of the usual clinical signs and symptoms. We have found that patients with very slight lesions but persistently presenting an unfavorable nuclear picture invariably do badly; and that, on the contrary, those with extensive lesions but fairly good nuclear pictures show a marked tendency to resist the disease successfully."

Arneth thinks unless the nuclear picture of apparently cured cases almost reach normal, one should not feel too secure as to the outcome.

As for diagnostic purposes these blood-pictures are untrustworthy because many infectious and contagious diseases produce this shifting to the left. This method, like many others in clinical medicine, is fallible and small variations should not militate against it. Although Kagan, Solis-Cohen and Strickler found Arneth's system of no clinical value the concensus of opinion is that it is a reliable prognostic aid in the treatment of tuberculosis.

TECHNIQUE.

It is obvious that many factors enter into the final analysis of blood counts, such as digestion, exercise, sleep, hemorrhages and cold baths. To obtain the best results we must secure a drop of blood during the absence of any known condition which changes the cellular elements in the blood current. Then make a thin even smear throughout the entire length of the slide using another slide in the ordinary way for swearing. Fix and cover with a fresh preparation of Wright's stain for two or three minutes; then add to the stain six to twelve drops of water; wait another minute and finally wash, blot and study under a one-twelfth oil immersion lens.

The pathological changes in the various white cells as a result of tubercular infection are shown by the following table made by Miller, Lupton and Brown:

	Polymorphonuclears	Mononuclears	Lymphocytes	Large mononuclears	Transitional	Eosinophiles
	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Incipient	64.9	33.0	28.6	2.0	2.4	2.0
Moderately advanced	69.3	29.6	24.6	2.8	2.2	1.0
Far advanced	18.4	18.0	14.1	1.3	2.6	0.5

LYMPHOCYTES.

Mononuclears.—Ullom and Graig agree with the above percentage of large mononuclears and state that they believe the resistive power to tuberculosis corresponds to the increase in number of lymphocytes. Claude and Zaky show in their laboratory that the animals resisting tuberculosis best produced many large mononuclears. Webb and Williams, of Colorado Springs, notice an increased number in patients improving and think probably this explains the beneficial effect attributed to high altitude.

Large and Small.—Many haematologists find the relation of these cells inverted when compared with the polymorphonuclears. Miller and Reed find no material change in number or character while studying the large lymphocytes, but report a very definite relationship existing between the small lymphocytes and the physical signs. In incipient cases and those with good prognoses, the percentage was uniformly high, while in advanced cases and those with a poor outlook, it was low.

Eosinophiles.—The foregoing percentage of these cells follows with remarkable accuracy the reports of many authorities. As a rule, these appear in incipient and favorable cases; diminish in number and disappear in secondary infection and cases doing badly.

Ewing, Cabot, Bischoff, and Bodkin found an increase after tuberculin had been given.

Neusser claims that immunity against tubercle bacilli is evidenced by an increase in the number of these cells.

Transitional.—Literature is meager as to the life of these cells in the blood stream of the tuberculous.

Solic-Cohen and Strickler find no relation between these cells and the clinical pictures in the various stages of the disease.

Craig, however, finds in his blood-pictures the percentage lowest in Stage II and highest in Stage III.

CONCLUSIONS.

1. Blood-pictures in pulmonary tuberculosis show, as a rule, a low percentage of haemoglobin.
2. A normal or increased number of erythrocytes.
3. A subnormal color-index.
4. An increased number of leucocytes.
5. An increase in polymorphonuclears and a decrease in mononuclears, small lymphocytes and eosinophiles as the disease progresses.
6. The transitional cells appear to remain constant without regard to stage, extent or activity of the infection.
7. That leucocytic pictures in phthisis pulmonalis portray more accurately the patient's resistive force than does the extent of the lesion.
8. That Arneth's differential neutrophilic count is practical and no examination is complete in tuberculosis without the blood-pictures.

REFERENCES.

1. Webb; *John Hopkins Hospital Bulletin*, August, 1912.
2. Miller and Reed; *Arch. Int. Med.*, May 1912.
3. Miller, Lupton and Brown; *Amer. Jour. Med. Sci.*, May, 1912.
4. Myer Solis-Cohen and Strickler; *Amer. Jour. Med. Sci.*, November, 1911.
5. Minor and Ringer; *Amer. Jour. Med. Sci.*, May, 1911.
6. Ullom and Craig; *Amer. Jour. Med. Sci.*, September, 1905.
7. Craig; *Amer. Jour. Med. Sci.*, September, 1905.

DISCUSSION.

Dunning S. Wilson, Louisville: The paper of Dr. Morris has been very interesting, and I wish to preface my remarks by saying that the interesting thing about the blood picture of tuberculosis is that a large number of men have been endeavoring to prove preconceived theories by it, and then they would work out the pictures in order to demonstrate them. With all due respect to the eminent gentlemen, who refer to altitude as favoring an increase in the lymphocyte count, and who say that altitude exerts a beneficial influence upon the disease, it seems to me it is simply brought about because of the fact that the tuberculosis situation has not been studied in a laboratory sense at higher altitudes or sea levels and the ordinary climate we are apt to meet as we travel here and there.

I have had some experience in this work and through the kindness of my assistants I have tabulated a hundred and fifty blood pictures. They have not been gone into quite as thoroughly as Arneth's pictures have, and we are not prepared to draw any conclusions. We do not believe that the blood picture gives us any real definite information, because we have incipient cases, moderately advanced cases, and far advanced cases, showing blood pictures which would not enable one to prognosticate the case.

With your indulgence, I shall avail myself of some notes I have prepared rather hurriedly to bring out our study of this disease.

It behooves us to study the blood picture in tuberculosis even more than it has been done in the past. One thing I have noticed is that men who have taken up tuberculosis work are apt to make a diagnosis because of the physical signs or because of the condition of the sputum, and they imagine the whole trouble is due to the one lesion itself.

INFLUENCE OF CLIMATE IN THE TREATMENT OF TUBERCULOSIS.*

By Newton Evans, Murray.

It is generally admitted that climate is an important factor to be considered in the curative treatment of tuberculosis, and clinical observations as well as vital statistics show that certain geographical locations are more favorable to the cure of tuberculosis, and that in these places the disease does not so often originate as in others.

Physiological considerations would make it seem reasonable to me that a patient suffering from pulmonary tuberculosis will stand a better chance of winning in the fight between the invading horde of tubercle bacilli and his tissues in climates where certain conditions aid him. For instance, blood changes seen in high altitudes, such as the marked increase in red blood cells; the mental exhileration brought about by clear atmosphere and much sunshine; and the direct effect of abundance of sunshine upon the tissues: these can reasonably be considered to have a helpful influence in this combat.

On the other hand, however, my own observations and conclusions from reading lead me to believe that these direct effects of climate upon the disease occupy a relatively secondary place among the real factors which make for the cure of a case of tuberculosis. It is admitted by practically all authorities on tuberculosis that there are three fundamental conditions which must be met in the successful treatment of the disease. First, an abundance of pure fresh air. Second, a maximum of nutritious food. Third, rest. And to these I should add a fourth means of treatment which I regard as of the greatest importance, that is the immunity produced by the administration of tuberculin.

In any given case the paramount question for us to decide is, "How can we provide this patient with the conditions which will make it possible for these four therapeutic agencies to be applied in the most effective manner. It is in the matter of the abundant supply of pure air that the consideration of locality and climatic conditions is of the greatest importance. In Calloway county we have just as much fresh air as in any other area of equal size and if we make proper efforts we can make it possible for our patients here to get the benefit of it. But it seems to me that the superiority of such a climate as that of New Mexico for instance, over ours lies in this, that its greater amount of sunshine and smaller number of rainy and cloudy days, its greater evenness of temperature and absence of extreme cold makes it so much easier and more pleasant for the patient in that climate to remain constantly in the open air than in this country. However, as has been repeatedly shown by practical example, it is not impossible for patients to live the continuous out-door life here at home.

When we come to consider the second and third necessary factors in our treatment we find a very different problem and one in which climate can have little direct effect; and in the great majority of cases a change of locality for the patient brings about conditions which make it far less easy to fulfill the requirements of proper food and absolute or partial rest which are absolutely essential than it would in case the patient should remain at home, or near his friends. Financial considerations alone make this true. The great majority of our patients with consumption are so situated financially that it is almost an impossibility for them to obtain in a distant state equal opportunities for careful nursing, nutritious food and complete rest which they can obtain at home.

When we speak of rest for the tuberculous patient we are bound to recognize that mental contentment and freedom from the pangs of home-sickness must be considered essential as well as opportunity for physical rest. And some of our patients who are financially able to command all that they need in a new country cannot command that mental composure which is essential, when separated from home and friends. There is one more phase of the problem which must be looked squarely in the face when we prepare to send tubercular patients away from home, and that is the question of medical attention and supervision. I do not know of any class of cases where the absolute control of the patient's life by the physician is so important as in this condition, and where success depends so greatly upon confidence on the patient's part and constant and careful supervision on the part of the doctor. But, it may be said, cannot the patient find in the localities where these ideal climatic conditions exist medical advisors who are even more proficient than their home physician? Possibly they can, but on the other hand there are many chances that unadvised they may not find just the right medical advisor. And far too often not only do these patients who are sent away from home fall into the hands of men who are inefficient and even unscrupulous, but almost invariably they will move from place to place and change from one medical advisor to another and in that way fail to get the essential of a successful treatment.

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*Read before the Calloway County Medical Society.

I have known a number of medical men who are justly regarded as men of ability and high standing but who make the mistake of considering that climate is the one most important element in successful treatment and immediately advise every case of tuberculosis to "go west" as soon as the diagnosis is made. I think this is a great wrong. Every individual case should be carefully considered from all sides before advising such a change. It is an individual matter and cannot be decided correctly by any cut and dried rule.

CONCLUSIONS.

1. There are certain climatic conditions which in themselves assist in the cure of tuberculosis.

2. The most important factor in climate is that residence in a warm, dry, sunshiny country makes it more easy and pleasant for a patient to remain constantly in the open air.

3. If conditions are such that the patient can less successfully obtain the essentials of the best treatment, nutritious food, mental and bodily rest and constant efficient medical supervision by going away from home he would much better not go.

Just a few words with reference to the particular kind of climate and geographic conditions most favorable for different kinds of cases.

The great majority of curable cases of tuberculosis between the ages of 17 and 40 years do best in a high altitude and dry climate (3,000 to 7,000 feet). On the other hand children and people past 40 years should not be sent to high altitudes but do best at lower levels and especially near the sea-coast.

WHAT IS THE TUBERCLE OF TUBERCULOSIS.*

By C. H. Todd, Owensboro.

The fad of to-day, extending over the whole world, is the effort to combat the ravages of the white plague. Even the Women's Clubs have settled the matter, and it is not inappropriate, that we, the humble bedside practitioners, should consider "what is the tubercle of tuberculosis." This paper can not be more than an epitome of the subject.

Post-mortems on the cadaver, show that sixty persons in ever one hundred of the human race, have had tuberculosis, recovered, and died of some other inter-current malady; so it is the most wide-spread of all diseases.

Scientists are divided as to the cause of tuberculosis: The one party contending that "all comes from without," the other that "all is within." Both parties can not be right.

Those holding the theory that "all is from without," contend that the tubercle bacillus, is expectorated by the consumptive, and inhaled by the healthy subject, which passes into the mouth, down through the posterior nares and bronchi, into the connective tissue cells bebulging. Then the connective tissue cells become swollen and undergo microtic division, the resultant cells being distinguished by their large size and pale nuclei. A small focus of proliferated ephetheloid cells is thus formed, about the bacillus, and according to the intensity of the inflammation, these cells are surrounded by a larger or smaller number of lymphoid cells, forming small nodules in the connective tissue which is the tubercle of tuberculosis showing that the tubercle is the product of the bacillus.

The bacillus may be in the dust of the room, or in the dust of the street or road, and thus, inhaled by the healthy subject.

It is also contended that milk, from a tubercular cow, will produce tuberculosis in the human subject.

The milk passes through the stomach, down into the small intestines, and by an amebic action, the bacillus becomes elongated, and passes through the walls of the intestines and infects the mesenteric glands producing "tabes mesenterica," or what is called "consumption of the bowels."

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*Read before the Daviess County Medical Society.

I have thus endeavored to present the theory of the "without scientists," and it seems very plausible, *but is it true?*

The microscopist can not detect the bacillus until the tubercle is formed, showing that the bacillus is a product of the tubercle, and not the cause, as stated above.

Then, too, the bacillus, in the cow's milk, would be destroyed by the gastric ferments, before it passed through the stomach.

The great bacteriologist, Koch, declared before his death, two years ago, that the milk from a tuberuclar cow could not produce tuberculosis in the human subject.

My faith is with those scientists who hold the theory that "all is within, and that tuberculosis is hereditary."

When the physical organization loses, persistently, its basic salts, such as lime, iron, soda, etc., the system becomes below par, and a new condition, within, arises as the liquor sanguinis exudes from the blood vessels into the connective tissue. The chemical exchange metabolism is faulty, thereby, according to the law of evolution, new, weak, giant, pigmy cells spring up into little nodules or tubercles, in the connective tissue; these cells are so weak that they can not reproduce themselves.

This conglomeration, through the whole organization, eventually begins to break down, then a new biological process sets up in the new acid mixture, the broken down nodules, or tubercles, and the bacillus tuberculosis has its birth; showing clearly that the bacillus is a product of the tubercle of tuberculosis, and not its cause.

All laboratory work of the chemist and biologist, in itself, represents a chemical action of dissolution. To elucidate, physical life is, according to natural law, a chemical action of resolution; the fermentative processes in the normal animal organization must be of a constructive character, always evolving new changes and properties in the tissues of the physical body. This living laboratory at normal, does not include the word *decay* at all; but its office is to supply, build and reconstruct the physical body, to normal, and hold it at normal; on the other hand, the laboratory of the chemist and biologist is conversely representing just the opposite tendency. They are always looking for a substitute, a substance, to keep their already decaying *anyway,* lifeless specimen from totally melting and decaying away.

To resume and to the point, the fermentative process which the laboratory chemist and biologist study, are of the dissoluting, destructive, decaying kind; on the other hand, the fermentative processes of the normal animal organism, the living laboratory of nature, always of a resoluting, or constructive kind, and always tend to a normal state of physical health.

When there is a deficiency of basic salts, thereby unbalancing *tension,* the chemical and fermentative action of resolution will not be up to the standard of completeness and, naturally, the point of least resistance will be the point of attack by tubercular infection.

This infection is a sequence, primarially, from within the physical organization, for an unfinished fermentative process, as here alluded to, is no longer a chemical action of resolution, but becomes, in a degree, putrefactive, and consequently new organizations of very low vitality and character begin to evolve themselves and among them the bacillus tuberculosis.

There is a practical difference of importance between the theory of "without," and the theory of "within," and it is this: The actuaries of the great American Life Insurance Companies, go to England, to get their vital statistics. Vital statistics, to be valuable, must be compiled from many, many million of people, and for many, many generations.

For more than two centuries England, with her many millions of people, has kept an accurate registration of all births and deaths.

In the United States a record of births and deaths is being kept in a limited way, begun less than one generation ago.

The American actuaries, in examining the vital statistics of England, are confronted with the bold fact that all persons dying between the age of 20 and 21 years, excluding puerperal fever and accidents, one-half, or fifty per cent. die of tuberculosis; those dying at the age of 12 years, the mortality is 5, in every one hundred deaths; at 16 years of age, the number is 17; and between 20 and 21 years of age, 50, in every one hundred; after the age of 21 years, the mortality decreases, being 33 in every one hundred; at the age of 25 years; and 22 in every one hundred at 30 years of age; showing that the mortality of one-half, between 20and 21 years of age, is the apex.

It is the unsanitary environment that develops tuberculosis. Those young people marrying approximately at the age of 20 years, one or both families with inherited tuberculosis and living in an unsanitary environment, rich or poor, after excessive sexual intercourse, the basic salts being lessened, the system becomes below par, and hereditary tuberculosis is developed.

The husband or wife who has no heredity, remains healthy, except so far as his or her health is impaired from confinement in the sick room and mental anguish.

In my experience in this community, as a physician, for more than 47 years, I have observed many, many similar instances. Two brothers marry two sisters, either or both families with inherited tuberculosis. The one couple living in a home, rich or poor, with an unsanitary environment, have born to them one-half or a dozen children. Those parents become invalids themselves and their children are feeble and as the children approach the age of 20 years they develop tuberculosis.

The other young couple live in a home surrounded by the best sanitary environments, an abundance of sunshine, pure air, pure water, pure food and dry soil. These parents are in good health and their half or one dozen children are all robust, and their grand children, reared under the same environments, are also healthy.

But let those children and grand children be domiciled in a home with an unsanitary environment, and soon they will develop hereditary tuberculosis.

In the latter instance hereditary tuberculosis has jumped one and two generations and, during my experience of forty years as medical examiner for life insurance companies I have been impressed with the prompt action of the Actuary in ferreting out these subjects of inherited tuberculosis, who have jumped one and two generations.

WHAT CAUSED IT AND HOW PREVENT IT?

By Edward A. North, Newport.

I claim only one virtue for my speech and that is brevity; were it otherwise, I am afraid I would make the mistake of a certain minister, whose sermon was a patchwork from a variety of authors to whom he gave no credit. There was an intoxicated wag in the audience who had read about everything and he announced the authors as the minister went on. The preacher began his discourse in a flowery manner, "I would that I could climb to the topmost round of oratory and pluck from there the sweetest blossoms and lay them at your feet." The man in the audience said "That's Jeremy Taylor." Another extract was given without credit. The man in the audience said "That's John Wesley." The minister gave another extract without giving credit for it, and the man in the audience said "That's James Whitefield." Then the minister lost his patience and cried out "Shut up you fool," the man in the audience replied, "That's you."

While it is with some degree of embarrassment that I appear before you this evening, yet I appreciate the honor, and were I asked the question to-night, "If you could live life over again, would you study medicine? my answer would be "yes."

Because I am proud to know that my lot is cast with such men as have gathered round this festal board on this occasion; men, bent on the alleviation of human suffering; men, whose responsibility inspires them to the highest type of citizenship; men, whose calling passports them into the sanctity of the home and unlocks the inner chambers of the human heart; men who aid nature while she brings forth the new born and stand by as a comforter while the soul takes its departure. Show me then a nobler profession.

To-day, the favorite inquiry of the medical world, "What caused it and how prevent it?" Answer that question correctly and make a practical application of the truth and the Millenium is here already.

Bacteriologists tell us that minute organisms are responsible for our ills, and in the light of our present knowledge we accept their teaching, but in connection with these micro-organisms are conditions that reserve more than passing consideration.

Just where in the past ages these conditions originated, the picture history leaves us is so crude, we are unable to tell.

Somewhere in Sacred Writ we learn that the beasts of the field, the fowl of the air, and the creeping things of earth passed before Adam to be named. To the onlooker it must have been a varied and odd parade, ranging from the elephant to the worm that squirms in the dust. Let us suppose that in this procession, were the hosts of the microscopic world and it will not take a great stretch of imagination to picture the tubercle bacilli as leading the van. On either side only a little less conspicuous, marched with steady tread, the spirochetae and gonococci.

A little later in history,—it may have been during the cave dwelling era of man, when sunlight and fresh air were unknown quantities in his lowly hovel, the tubercle bacilli found conditions favorable for his development and thus began his onward march of destruction. The spirocheta and gonococci, being of a more social and aristocratic turn, may have selected some social event similar to the feast of Belshazzar to make their debut into the society of mankind, because we are told that they associate with kings as well as peasants.

Where or when these conditions had their inception, this we do know, that at the present time we are in the midst of social, civic and economic conditions that tend mightily to the cause of disease. In answer to the

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*Address delivered at the Annual Banquet of the Campbell and Kenton County Medical Association, December 19, 1912.

second question, authority says enlightment—teach the masses how to live. We have anti-tuberculosis leagues, branch hospitals and great international gatherings looking to the solution of this problem. Great strides have been made through the publication of facts. But the question comes to my mind, if it takes public education to solve this problem, why not use the institution whose sole purpose is public education?

The combined curiculum of any school cannot equal in practical value, lessons on the laws of health tending to lengthen life and lessen suffering. I believe that a course can be outlined suitable to the comprehension of the child. It is too often the case that grown up folks have fixed opinions, but in our public schools we can mold the plastic elements of our future citizenship.

Teach the child that the great white plague is not particularly hereditary, that it is preventable, imbue them with the idea that its prevention depends largely upon school children and these little sanitarians will create such an irresistable public sentiment, that none dare neglect health regulations.

Again, the school children of to-day will in the future be called to various positions of prominence and power in the government and in the home, where they will be able to put their knowledge to practical use, consequently hastening the day of a healthful and beautiful city.

No petty effort or selfish appeal will meet the end; it will require all the forces of enlightenment and philanthropy, private and public, but the goal is worth striving for. Man can and will live longer, he can and will live happier, because of the preaching of the doctrine of preventive medicine.

Idem.—Having a vivid recollection of the numerous immediate deaths he had encountered following the Wertheim operation, Cullen says he hesitated long before he could make up his mind to attempt to locate the patients that had left the hospital. But when, finally, the work was commenced, and it was found that some patients had enjoyed comparative comfort for one, two or three, or even six years, he felt that the operation had been worth while. And when seven letters came back saying that the patients were well at periods varying from six to thirteen years, and expressing the most profound thanks for what had been done for them, he could not help feeling that the radical abdominal operation is the one destined to yield the best results. This is an operation, however, he concludes, that cannot be lightly undertaken, as it requires the very best efforts of the surgeon.

EARLY DIAGNOSIS OF TUBERCULOSIS.*

By J. C. McCreary, Cave City.

When we consider the enormous death rate from the white plague, let us stop and seriously ask ourselves the question, is there nothing that I can do to assist in checking this great slaughter of human victims?

We at once realize that the victory must come from two sources, prevention and early diagnosis. Prevention, not coming within the title of my paper, will not be dwelt upon.

I believe that in making a physical examination of a patient that we can not be too careful and should always be on the alert, especially in examining the chest, for a beginning tuberculosis.

A careful consideration of their clinical history is of first importance in making a diagnosis. One fact brought out by the reports of our tuberculosis sanatoriums are the number of admissions in the advanced stage of tuberculosis ,which has failed to be diagnosed in its incipient stage. I believe our most common error in failing to make an early diagnosis, is that we do not strip our patient to the waist in making our chest examination, and often do not give them but one sitting and that gone over entirely too hastily.

It is much better in arriving at a diagnosis that we err on the safe side, by sending a patient to the sanitorium who later proves not to have tuberculosis, than to fail in a careless examination to diagnose and send one who has tubercular lesions, until too late, their doom is sealed, besides there has been many other cases contracted from this one. No patient is ever harmed by having been sent to a sanitorium, while on the other hand great harm is done by not sending one that might have been cured if sent in time.

Our best authorities agree that an early diagnosis can be made before there is a positive tubercular sputum. A wrong positive diagnosis is made in only about .4 per cent. of cases, while the record further shows that many patients are sent too late. Consumption exists long before it can be detected by physical signs and symptoms.

The time intervening between infection and the time of demonstration by physical symptoms may be many months, or, as in some instances, many years. It is in and during these early days of the disease that the cure will cast the least; and for this reason we should endeavor to discover it before the appearance of the physical signs.

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*Read before the Barren County Medical Society.

PHYSICAL SIGNS.

In the majority of cases that I have examined, the primary seat is about one inch to an inch and a half below the summit of the lung near the posterior and external borders: also a less common seat is in the second and third interspaces below the outer third of the clavicle, the lower lobe of the same lung is usually affected early. A beginning lesion of the lower lobe is from one inch to one and a half inches below its summit or opposite the fifth dorsal spine.

The lesion then spreads along the line of the vertebral border of the scapula. It is often found that the lower lobe of the opposite lung is involved before that of the side first affected. We should always carefully examine the supra and infraclavicular regions, the supraspinous fossae and inter-scapular regions opposite the fifth dorsal spine. Owing to abnormal conditions existing in many chests, a diagnosis of pulmonary tuberculosis should never be made from a single physical sign, as we all well know there exists considerable variations in the normal sound chest.

If we find a distinct impairment in the percussion note at one apex, if it be pathological we will find it accompanied by other physical signs; as alterations in vocal fremitus, a diminution of expansion, etc. Another point to consider of very great importance is, to compare like points on either side, this is best done by having your patient stripped to the waist, standing in a good light and using all the different methods of inspection, percussion, palpation and auscultation. In this way you may discern that one fossae above or below the clavicle is hollowed out more than the other, or one clavicle is more prominent than the other.

A diminished expansion of one apex is usually a very early sign of tuberculosis. This is nearly always found before you will discover an alteration in the percussion note and about as soon as there is a change in the character of the breath sounds and still be very slight in comparison with the opposite side. The vocal fremitus is normally greater on the right side than on the left. If we find the fremitus equal on both sides, it would most certainly call for a closer inspection of the right apex.

Harsh breath sounds, with a somewhat prolonged expiration, and that limited to one apex, is most generally the earliest sign of pulmonary tuberculosis. The examination of the sputum is of very great service, especially in those patients who suffer from bronchitis and emphysema; for the reason that in these patients, the physical signs of the primary disease often masks or covers up tuberculous lesions except in the most advanced stages; consequently it is a good plan to have the sputum of such patients examined periodically. If we find the tubercle bacilli in the sputum and can exclude tuberculosis of the mouth, pharynx, and larynx, we must assuredly have pulmonary tuberculosis to deal with, even though physical signs are absent.

Dr. F. W. Price holds to the opinion that hemoptysis is not so common a mode of onset as it is generally supposed to be, and holds to the rule that if it is a genuine case of hemoptysis, and if all other causes except tuberculosis can be excluded and there is suspicious symptoms or physical signs, a positive diagnosis of early pulmonary tuberculosis should be given.

TUBERCULIN TEST.

The tuberculin test is perhaps the best of methods for the early diagnosis of tuberculosis that we have at our command but owing to the severe reaction that often accompanies its administration, I have never felt that I wished to resort to it, but if I suspected a case and could not satisfy myself by other tests I would not hesitate to use tuberculin.

In the majority of incipient tuberculosis cases you will notice a gradual developing sense of languor or weakness, loss in weight, pallor or sallow face, shortness of breath on the slightest exertion, loss of appetite, chilliness, and digestive disturbances, slight fever and perhaps night sweats. They may or may not have a slight cough and expectoration, during this time the chest may be practically normal. The onset or manner of invasion may vary. The initial in a few may be haemoptysis, but as I have previously stated should not be made a point of diagnosis until you have excluded all other causes from which it might arise.

GASTRO-INTESTINAL SYMPTOMS.

Gastro-intestinal symptoms, such as acidity, epigastric distress, flatulence, eructations, or vomiting and these may be so prominent as to overshadow the pulmonary trouble.

We may find a form of intermittent fever, with chills and sweats. Tuberculosis lymph glands may be found to antedate other pulmonary signs.

X-RAY SIGNS.

X-Ray signs, are among our latest methods of making an early diagnosis of tuberculosis, but in my limited practice have never had the means at hand to make use of this valuable adjunct.

THE X-RAY AS A DIAGNOSTIC AGENT.*

By W. E. IRVIN, Owensboro.

Improved methods in diagnosis have made rapid strides in recent years. In fact modern methods have multiplied with such rapidity that it has been impossible for any one man to acquire all the qualifications essential to a scientific diagnosis. For this reason it is becoming necessary for the profession to do "team work" as it has been called.

By this I mean that the necessary scientific technique for the examination of all the constituent substances of the body, both physiological and pathological, require so much special knowledge and so many different instruments and apparatus, that no one man has the time and necessary equipment to do it all thoroughly. True many acute diseases have such plain and unmistakable symptoms, that a resort to all the aids to diagnosis are not required. The symptoms being so plain that "he who runs may read."

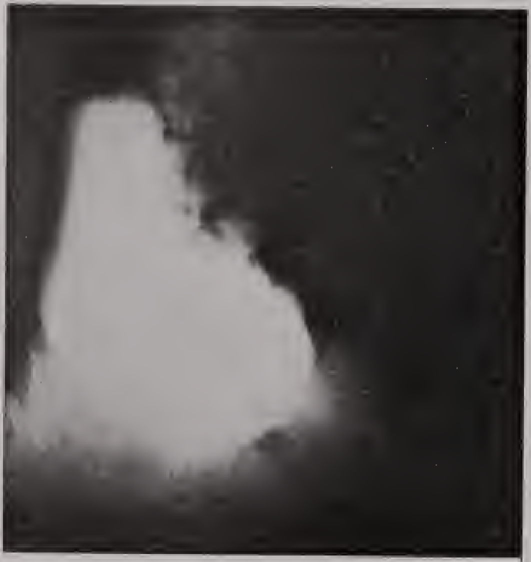

Fig. 1, Case 1.—Taken 5 minutes after bismuth food was ingested.

The laboratory with the microscope and other accessories, probably comes first in usefulness, at least it is most frequently used, because the cases which require it are most numerous.

Next in usefulness, as an aid to diagnosis, comes the X-ray. It is this that I want to impress upon you most forcibly. It is of inestimable value in many conditions, both in general practice and general surgery. In the diagnosis of an obscure intestinal disease, especially when this is obstruction, it is coming more and more to be used. By the administration of one-half to one ounce of bismuth subnitrate in a plate of oatmeal for breakfast we can get a good Radiograph of the intestinal canal in a few hours afterwards and in this way locate the point of obstruction.

In pregnancy, after the fourth month, we can get a picture of the bones of the fetus. Thus in pregnancy when the woman is disposed to conceal the symptoms, we may be enabled to make diagnosis positive at an earlier date than could be done otherwise. Radiographs of obscure diseases of the bones often clear up a diagnosis and point the way to a surgical operation for relief. In this connection I will relate a case I treated in June, 1910. This patient had an attack of influenza in February, 1910, followed by severe pains in the head and leg, with some swelling in the leg. This pain and swelling coutinued until June, when I made a Radiograph of the leg which showed an enlargement of the tibia about four or five inches below the knee. After consultation, I operated on this bone and found it enlarged and very much hardened, (sclerosed or eburnated bone).

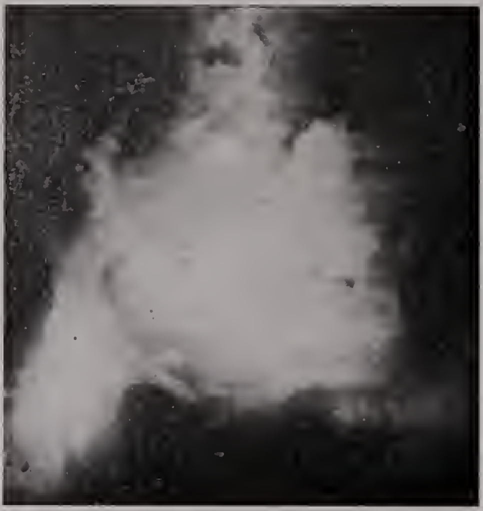

Fig. 2, Case 1.—Showing bismuth in cecum and colon twenty hours after ingestion.

With chisel and gouge I removed a section of this bone two inches long by one inch in width, down to the medullary canal, exposing the marrow. There was no pus or disease of marrow. The wound was closed and in the course of a few weeks the patient completely recovered and has remained well to this day.

One of the most useful fields for the use of the X-ray is in locating foreign bodies, such as glass, needles, pins, slivers of iron and steel and bullets. In many cases the patient and his physician are in doubt as to whether there is a foreign body in the part that has received an injury, an X-ray picture of the affected part will not only clear up the diagnosis, but will point the way to a successful surgical operation for its removal in the event that a foreign body is found.

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*Read before the Daviess County Medical Society.

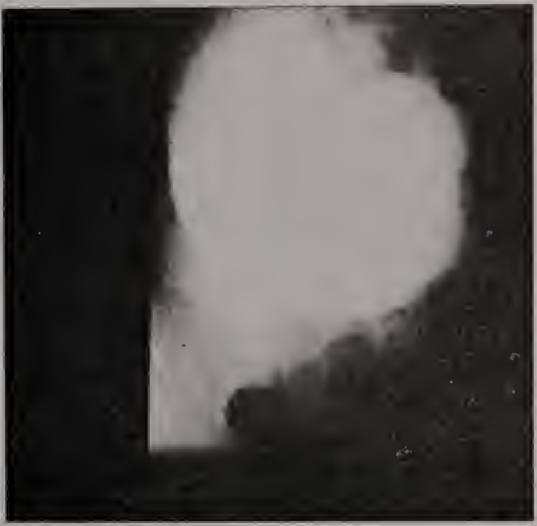

Fig. 3, Case 2.—Note the size of stomach which has 24 oz. bismuth food in it.

The use of the X-ray in the case of fractures is of very great value. Often of more value than we suspect at the time. It often enables us to detect obscure fractures after an injury when the physician is in great doubt as to whether there is any fractured bones. You all know what a source of satisfaction it is to be able to clear up these doubtful points. We may be enabled to detect malingering in many cases, when the patient who has received an injury to his person may, for pecuniary or other reasons, be anxious to prolong his alleged disability. An X-ray picture of the affected part will quickly show if there is any injury to the part. How much better results you can secure in the adjustment of the broken and often displaced bones. Then after you think you have properly adjusted these fractures and displaced bones, you can verify the fact by making another X-ray picture which will show just what you have accomplished in your work.

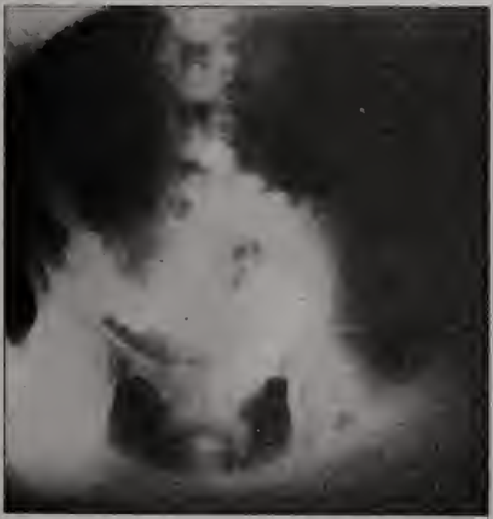

Fig. 4, Case 2.—Showing bismuth in colon 25 hours after bismuth meal.

Of course it is needless for me to suggest to you that you will gain much benefit and satisfaction in the treatment of the cases herein mentioned by the use of the X-ray, and you will at the same time, perhaps, protect yourself from a malpractice suit.

CYST OF THE PANCREAS, WITH REPORT OF CASE.*

By S. B. Marks, Lexington.

Pancreatic cysts, though rare, are met with frequently enough to make them of more than passing interest from both a diagnostic and a therapeutic standpoint.

Three distinct types are generally recognized:

(1). Retention cysts which are usually small and numerous, the whole gland in some instances being little more than a mass of small cysts; rarely one cyst the size of a man's fist may be found. Such cysts are of a vague etiology though chronic pancreatitis is often associated with them, the inflammation being due to the compression of the ducts by the cysts or the cysts may be due to the occlusion of the ducts by bands formed by the inflammation; so the one may cause the other.

It has been demonstrated in animals that ligation of the main ducts of the pancreas will cause a chronic pancreatitis with no cyst formation and the same holds true in man although in some instances cysts are found where such pressure exists. this has been explained that the pressure in these cases was not continuous but intermittent or partial.

Pressure of gall or pancreatic stones seldom cause multiple cysts. Occasionally large cysts are associated with gall stones impacted near the orifice of the pancreatic duct.

(2). Proliferation cysts which are types of true epithelial tumors found elsewhere in the body as ovarian cysts adenomata and papillomata are rarely malignant, although several malignant ones have been reported.

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*Read before the Fayette County Medical Society.

(3). Pseudocysts which are not true cysts, having no epithelial lining and obtain their large size by virtue of the corrosive and irritant action of the contents, in which are present one or more enzymes of the pancreatic juice.

These cysts are sometimes found in the gland substance as a result of degenerative changes. As a rule they occupy the lesser peritoneal cavity and arise from the surface of the gland; such cysts have thick walls without epithelial lining though this may have been destroyed by the action of the enzymes.

The fluid is usually clear, occasionally contains mucus with some remnants of blood and debris of gland tissue often being colored brown, green or even black by the blood when present. The blood may come from the pancreas, the sac wall or be due to injury, although traumatic cysts may contain clear fluid the blood having been absorbed. Retention cysts often contain blood.

Naturally one would suspect all pancreatic cysts to contain some enzyme from the gland secretion and as a rule such is the case, so that any cyst fluid in which one or more of the enzymes are present can be classed as arising from the pancreas. On the other hand a few pancreatic cysts do not contain enzymes, thought to be due to the fact that chronic inflammation of sufficient amount exists or they may have been destroyed by the blood present which is known to have an anti-tryptic action: and again a cyst not of pancreatic origin may contain one or more enzymes since other abdominal cysts often have present fat splitting ferments which are widely distributed and occasionally a diastatic ferment and where many polynuclear cells are present a proteolytic ferment may be found.

PHYSICAL SIGNS.

Tumors the size of an orange to that of a man's head or larger situated between the umbilicus and the ensiform cartilage which are of a cystic nature are frequently of pancreatic origin.

Such tumors may fluctuate or may be very tense with little or no fluctuation; are usually fixed but if a pedicle of any length is present often descend as far as the pelvis and are freely movable. A fixed cyst may move with respiration if fixed to the diaphragm or pulsate if over the aorta, this pulsation will disappear if the patient be placed in the knee-chest position. Those from tail of pancreas are the most freely movable. Pancreatic cysts vary very much in size and may attain very large size, filling the most of the abdomen.

Though for the most part the cysts lie in the median line they nearly always incline to the left, in proportion of four to one, and in some instances may lie almost wholly to the left of the median line.

Korte has divided pancreatic cysts in their relations to the stomach and colon into three groups: (a) Those arising from the anterior surface of the gland pushing into the lesser peritoneal sac and shoving the stomach up and the colon down presenting to the surface between the two tympanitic areas with the stomach tympany overcovering the growth if artificially distended: these types are covered by the gastro-colic omentum. When small such cysts may lie behind the stomach and still be separated from the liver by it.

(b) When the source of origin is from the superior border of the pancreas which is situated on a level higher than the lesser curvature of the stomach the tumor lies between the stomach and liver and is covered by the gastro-hepatic omentum; the stomach may if distended cover this type of cyst. One case is reported in which the cyst shoved its way through the foramen of Winslow and lay in the general peritoneal cavity.

(c). Cysts arising from the tail of the organ may separate the layers of the mesocolon and may lie above or below the colon.

By far the most usual site is the first one mentioned only nine cases reported in the second class; the number belonging to the third class not being given.

Pancreatic cysts may rupture spontaneously or from trauma and disappear with signs of peritoneal irritation or with an accompanying diarrhea if rupture into the bowel. Payr reports one case which disappeared three times, presumably into the bowel, as diarrhea was present each time.

SYMPTOMS.

Pain is the most constant symptom and is nearly always present even when the cyst is too small to palpate. This pain varies so in intensity and location as to be of little value in diagnosis and may be of a paroxysmal character.

Pressure on the stomach may cause distress with nausea and vomiting and colicky pains constipation and rarely obstruction, if the intestines be subjected to too much pressure.

Pressure on the portal veins may cause ascites and if on the inferior vena cava oedema of the legs may be present.

Jaundice is only found when the growth is in the head of organ and is rare.

History of injury may be obtained; Korte reports 33 of 117 cases with such history and Lazarus has added 8 others.

Lack of secretion rarely causes trouble and in all these instances glycosuria and a marked destruction of the gland were also found. Glycosuria may be caused by pressure on the duct. Osler reported 9 or 134 cases with glycosuria.

Emaciation is practically always present and a rapid gain follows operation. Pancreatic cysts are as a rule all of slow growth but some pseudo-cysts grow very rapidly and cyst-adenomata enlarge slowly at first and then suddenly increase markedly in size: traumatic cysts usually develop in a few weeks.

DIAGNOSIS.

The characteristic situation of the cyst, in the middle line lying in the greater part of the left, is of primary importance. The relative position of the stomach and the transverse colon are of importance, the stomach above and the colon below in the majority of instances, the stomach tympany covering the stomach on distention while if the tumor be of the gall bladder or a cyst of the spleen the stomach will not overlie it on inflation. Diagnosis is obscure if the tumor lies above the stomach and next to the liver.

Mesenteric cysts lie lower, at the level of the umbilicus and are usually freely movable. Certain instances when the growth lies directly on the aorta pulsation may be present simulating aneurysm but the pulsation will disappear on assuming the knee-chest position.

Where the tumor suddenly disappears hydronephrosis may be thought of, but the lack of sudden increase in the urinary flow and the presence of the associated symptoms of peritoneal irritation or of an accompanying diarrhea will assist in a correct diagnosis.

TREATMENT.

The treatment of pancreatic cysts is strictly surgical. Aspiration, which was formerly practiced, has been abandoned as the cyst soon refills and the procedure is not without danger.

Excision is also dangerous owing to the situation of the growth but is frequently resorted to if the pedicle is long and the tumor is accessible, the mortality of the operation is about twenty per cent.

Hirst and Veeder, in May, 1910, report the case of a woman who was admitted to the hospital with a lump in the abdomen situated above the umbilicus and freely movable with history of sharp colicky pains in the mass for five days and a tentitive diagnosis of an ovarian cyst with a long twisted pedicle was made; but on operating a cyst was found the size of a grape fruit, situated in the lesser peritoneal sac and attached to the pancreas at its head, which was successfully excised and found to contain a mucilaginous fluid and the presence of a fat-splitting and a diastatic ferment demonstrated.

The most universal mode of treatment consists of bringing the mass to the abdominal wall, fastening the tumor by its sack to the wound margin and opening the cyst at this time or if the symptoms are not urgent opening it in a few days. After drainage thus the cavity can be packed or a tube fastened into the opening. A persistent sinus frequently remains, but, as a rule, close in six months' time. Such sinuses have been excised, turned into the stomach and others opened posteriorly. The use of various injections to heal these sinuses is a dangerous procedure and has in some cases proven fatal. The drainage from these cysts is considerable, being a pint or more daily and in the early stages corrodes the skin.

Korte has recently reported six inflammatory cases treated in this manner.

REPORT OF CASE.

O. W. S., student State University; male, 21 years of age. Previous history negative but for constipation of a moderate degree. First seen September 27th, 1911, with the following history; three or four days before was wrestling and lay on the ground for some time but was conscious of no injury received at this time; that night he had severe pain in the left side of abdomen at about the level of the umbilicus, anterior to the kidney and extending along the rib margin toward the sternum: this pain was deep seated and little tenderness was found and no mass was discovered on first visit. Some nausea but not vomiting, temperature 101.5, pulse 90. Fearing an obscure and acute condition, a leucocyte count was made and was below 10,000, to calomel was given followed by salts the next morning. When seen the next day he was distinctly better, the cathartic had acted several times and he had vomited two or three times, the bile-stained vomitus common after calomel temperature 99.

Two days later was called and found the patient considerably worse with much pain under the left rib border, considerable rigidity of the left rib border, considerable rigid ity of the left rectus and an indefinite mass deeply seated in this region which was distinctly dull on percussion; temperature 101.5, pulse 100. Patient was sent to the Good Samaritan Hospital.

The following day pain and tenderness were much increased and the tumor easily made out as a large tense affair lying to the left of the mid-line and extending well below the rib margin, no fluctuation appreciated. Temperature ranging from 100.6 to 102, pulse 86 to 100; leucocytes 13,600. Urinalysis: Trace albumin, few casts and few blood cells. amount in twenty-four hours, thirty ounces. Castor oil administered was vomited, though bowels moved freely.

The next day patient was suffering considerably more and restless, with an appreciable increase in the size of the tumor (tumor was outlined in ink on the abdomen to enable one to watch growth.) Temperature 100.6 to 103, pulse 96 to 100. No vomiting, no nausea. Dr. Bullock was called in who agreed that to wait until the next day and if no change to operate. Diagnosis: Pancreatic cyst, hydronephrosis, or abscess, gastro colic omentum agreed upon.

The following day, October 3rd, six days after patient was first seen he was in every respect worse; temperature 103 and the tumor showing much enlargement, and the following operation was done:

A three-inch incision was made from the outer border of the left rectus outward and downward along the rib margin so as to open over the most prominent presenting part and a large cystic tumor, lying between the stomach above and the colon below covered by the gastro-colic omentum, was found occupying the greater part of the lesser peritoneal sac, touching the obdominal wall anteriorly.

The cyst wall was punctured and a quart of clear, somewhat viscid fluid withdrawn, the last of the fluid looking like pus. The cyst wall was sutured to the incision and a large tube fixed into the cavity The further course was uneventful, the temperature reaching normal on the seventh day and the urine clearing at about the same time.

The drainage was copious, being from 15 to 30 ounces in twenty-four hours, while in the hospital. On culture and examination the fluid showed no pus nor bacteria, but would digest egg albumin and starch. At the present time there is a permanent fistula which drains about a half an ounce an hour in the day and a little less at night. The boy is in good health though quite thin.

Autoplastic Operation on the Cheek.—Lefevre states that Chavannaz had extremely satisfactory results in two cases in which he restored the cheek after an extensive mutilating operation for cancer. He drew up a flap from the neck, keeping the raw surface inside. The dreaded suppuration and retraction did not occur, and Lefevre has repeated the operation on a number of dogs to confirm its practicability. The dogs now open their mouths, eat and bark, apparently normally, so that no one would suspect they had been operated on. The raw surface healed over in from sixteen to thirty days. He gives twenty-five illustrations of the technic and results.

CERVICAL LACERATIONS.*

By J. O. Jenkins, Newport.

Cervical laceration is the rupture of one or more of the tissues composing the uterine cervix.

Trauma is always the producing cause, childbirth being the important factor in the large majority of instances, and made possible many times, by meddlesome midwifery.

The unskilled use of the forceps or using them at a too early period, the various manipulations at version, adjustment or extraction, the use of ergot before cervical dilatation is complete, too early rupture of the bag of waters and precipitate labor all bear a direct responsible relation to the damage done the cervix. Then too, from long continued pressure of the fetal head upon the lower segment of the uterus, the tissue may be so thinned and devitalized, that its normal resistance is destroyed and it gives way under moderate strain.

Labor in the presence of malignant disease of the cervix is another thing to be considered in the etiology. Rupture will nearly always occur in the indurated or sloughing area and give rise to brisk hemorrhages.

Primapara producing children late in life are very apt to have lacerations occur because of the inelasticity of the muscular tissue.

The delivery of a fibroid polyp or other tumor from the uterine cavity, the expulsion of a premature fetus, the remnants of an abortion, or instrumental dilatation are additional factors to be borne in mind.

Laceration is acute only at the time it occurs; it is otherwise essentially chronic until the parts are restored by treatment or surgical intervention.

The damage may take place and afterward exist at any part of the cervix. It may be situated at the internal or external os, or it may occupy the internal surface of the cervix between and including the two points named. It may be entirely internal or it may so involve the cervical mucous membrane, fibrous layer and vaginal membrane that they are one and occupy one tract.

The tear may extend in any direction, into the vagina, the broad ligament, bladder or the utero-rectal space. It may even invade the pelvic peritoneum.

That these occurrences do now and then happen should urge the obstetrician to be exceedingly careful and cautious in his attendance and manipulation of the woman.

There are two general types of lacerations, the incomplete, those wholly internal to the os

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*Read before the Medical Staff. Speers' Memorial Hospital, Dayton, March 27, 1913.

—the so-called concealed laceration—and the external, visible or complete one.

They may be single or multiple, simple or complicated. A normal amount of tearing takes place at the birth of the first child, usually involving the mucous membrane only, but may be accompanied by one of the graver varieties.

The result of the solution of continuity of the cervix are quite important to the woman's welfare and morbidity.

As a result of the laceration, her recovery from the lying-in state is not as prompt nor complete as it should be. Involution often fails or is very protracted, which when she has to assume household or business duties brings about a train of infirmities which naturally limit her usefulness and induce conditions of depressed vitality.

One of the worst evils of this condition is the weakened support given the uterine body and associated appendages.

Deprived of its support the uterus sags lower in the vagina and inclines toward the part of pelvis occupied by the damaged cervix. Progressively the tilting is increased until a more or less complete flexion or version becomes a fixed fact.

With this a condition of rectal inertia takes place and constipation and consequent absorption of toxines are manifested. From lack of support below and aided by the downward pressure of organs and structures above, a sense of dragging weight is soon felt in perineum, buttocks and sacro-vertebral regions, and backache, hipache, and vertical headache daily torment the victim.

Passive inflammation of the severed cervical tissue adds the features of an endometritis to the disability.

Abnormal conditions of menstruation often supervene and metrorrhagia, irregularity, leucorrhoea, abortion, or sterility add to the distress and dangers threatening the woman.

Very often unless the woman is physically very strong and robust, the health gives way and neurasthenia or other phychopathic ailment develops and affects her mental balance. The pleasures of life, social and physical, have vanished to be replaced with a everlasting symposium of pain and discomfort.

A certain amount of healing takes place usually at the superior angle of the tear. This in itself is often the cause of pain and irritable pelvic sensation.

The cicatricies are sensitive to touch, movement and coitus, and the discomfort, pain and quick exhaustion prevent or limit walking and other prolonged or vigorous exercise.

An untreated laceration is usually the seat of pathological changes, which in themselves become a danger to life. There is generally some degree of eversion of the edges of the tear in long-standing cases and proneness to cystic degeneration and erosion of surface many times accompanied by induration and hypertrophy. From the exposure the mucous membrane of the cervical canal becomes inflamed and a catarrh is set up, which produces a profuse leucorrhoea annoying, and exhausting in its effects.

The effects of a cervical tear are immediate or remote.

Thus of the former may be expected, sepsis, hemorrhage, ulceration and the creation of fistulae between the bladder, the rectum or other pelvic organs or structures, and infection finds a choice line of advance prepared for its operations. The more remote effects are none the less far reaching nor dangerous. Endometritis, uterine displacements, due to subinvolution or contraction of cellular tissues, and chronic tubal and ovarian disease.

Added to these dangers, there is the great possibility of the cells of the irritated surfaces taking upon themselves alterations in physical character and function, and becoming malignant. It is claimed that one-third of all cancers are of the uterus, and that 98 per cent. of those of the cervix are due to trauma either by parturition or dilatation of the cervix.

The history of the patient's symptoms combined with the information secured by the examining finger and speculum develop the diagnosis and the question at once is, "what shall be the method of relief or cure." Twe methods of proeedure are to be considered, medical, which may be preliminary to a more radical course, and surgical.

Many patients not recognizing the grave possibilities of their trouble will insist on being treated by the family physician at his office. In the majority of cases, this plan may be adopted and the physician may keep the case under observation, and accomplish considerable improvement, at the same time solidify the confidence reposed in him by the patient.

No amount of local treatment, however, will ever close the wide gap of a severe cervical laceration. The edema, induration, ulceration, catarrh, hypertrophy and hyperaemia may all be made better, but missing tissue can never be replaced by it.

In treating a case, the personal equasion should never be lost sight of as there is usually much to be restored aside from the fractured cervix.

The daily life of the patient should be outlined, and a strict attention be paid to personal hygiene, clothing, rest, diet, exercise or labor, and completeness of secretion and elimination.

The general tone of the body should be aroused by bark tonics, iron, arsenic, strychnia and the mineral acids, which with a liberal diet high in caloric and fat producing units should replace much of the lost vitality of the patient.

It is well to provide certain standard remedies of proper strength for local application.

Thus there should be at hand a reliable supply of peroxide of hydrogen, 1-2000 bichloride of mercury, normal salt solution; 10 per cent and 25 per cent. silver nitrate, 50 per cent. ichthyol, Churchill's iodine tincture U. S. P. iodine solution, 10 per cent. zinc chloride, pure carbolic acid, a few kite sticks 8 inches long, cotton wrapped on each end for applicators; 10 per cent iodoform gauze tape, absorbent cotton or wool and a roll each of gauze bandage 1 inch and 2 inches wide.

There should also be provided a quantity of boro-glycerine and tanno-glycerine and the usual instruments.

If there is much pain or irritability it is a good procedure the first few sittings to cleanse away the tenacious mucous with peroxide, apply a dram of ichthyol solution to the surface, then pour a half ounce of boro-glyceride into the vagina and pack it well with a bandage, cotton or wool against the os and upper vaginal surface. When a few treatments have diminished the sensibility, the fungoid granulations may be scraped off with the sharp curette, and all cysts punctured with the knife or Buttle's spear, and silver nitrate or tincture of iodine applied followed by the boro glyceride and packing.

As progress is made the stronger solutions may be substituted for the milder strengths and tanno-glyceride substituted for the less energetic boro-glyceride, reserving the pure carbolic acid and solution of zinc chloride for ulcerated surfaces or touching the cysts which persist in refilling after evacuation.

By careful attention a surprising amount of benefit may be accomplished and otherwise hopeless cases will exhibit a much more encouraging prospect and be placed in a very satisfactory condition for surgical cure.

When the case comes to operation, the object should be to make the repair complete in every particular. All the old cicatricial tissue should be dissected out, and the upper angle be left free of it. If the laceration is incomplete it should be converted into a complete one. all fistulous tracts should be traced, freshened and carefully closed, a long cervix or one mutilated with numerous tears, or if much eversion which cannot easily be overcome exists, amputation should be the rule.

In those long standing cases, in which the endometrium of cervix and fundus are involved, dilatation and thorough sharp currettement must be done, otherwise the catarrhal process will continue and a possible failure of the proceding bring disappointment and chagrin to the operator.

Nothing has been said about technique because every operator must develop his own and vary it according to circumstances. One caution may be given, however, that a stout, full curved needle should be chosen for carrying the suture and that the first one should be placed a slight distance above the upper angle of the freshened laceration.

A word as to the douche. Hot water and plenty of it is an excellent method of reducing hyperemia.

Consequently, after removal of the packing, which should remain forty-eight hours, the vagina may be repeatedly flushed with plain or medicated hot water, the patient lying down when using it. Borax, boric acid, bicarbonate of soda or any alkali may be added to the water if desired.

The antiseptic powder of the National Formulary makes a very excellent remedy for this purpose.

In conclusion I would say, that a vast amount of good results may be secured by patient, persistent, thoughtful medical attention to lacerations of the cervix, but that the only positive and lasting cure of them, is thorough skillful and conscientious surgery.

DISCUSSION.

W. W. Anderson: The very practical paper the essayist has just given us brings up a few questions one of which is the permancy of the union in the presence of labor taking place afterwards; and is it advisable to repair a laceration that is giving no symptoms. Another thing he has not mentioned is, his position on the immediate repair. I have seen well repaired lacerations give way so often in subsequent labors, that it seems to me to be inadvisable to make a repair when the woman is in the childbearing period. I also believe that many women go through life with a more or less badly torn cervix, which presents no symptoms of disability or pain.

With such experiences before us, is it wise and timely advice to insist on a repair operation, knowing that a refracturing of the repaired part will take place in the event of subsequent childbirth?

W. E. Senour: The privilege of listening to a scientific presentation of a live subject, equally interesting to both internist and surgeon is a rare one.

Every practitioner of medicine has observed the frequency with which carcinoma of the cervix develops at the site of an old laceration of the cervix. They are all likewise agreed as to the urgent necessity of early repair.

Permit me to emphasize the importance of the use of hydrotherapy, as set forth by the essayist, as I regard it as one of the most potent remedies outside of surgery. My observation has been that if we would secure the best results with hot water, large quantities must be used, the temperature being gradually increased from 108° F. to 118° F.

Another therapeutic agent of considerable value in the treatment of these conditions, not mentioned by the essayist is electricity. During the past two years, I have used the galvanic current of a strength of five to fifteen milliamperes with such satisfaction, both for the relief of pain and the removal of cicatricial tissue. For this purpose I employed a copper electrode, covered with either cotton or gauze, which is moistened with solutions of salicylic acid, iodine or iodide of potash, depending upon cataphoresis for the result. By this method a marked diminution of pain takes place, also a rapid disappearance of cicatricial tissue.

I would like for the essayist in closing the discussion to give us the results of his observation with electricity in the treatment of these pathological conditions.

W. A. Young: Agreeing with the essayist when he speaks of rest, I want to especially recommend that prolonged "an hour or more" of rest flat in bed after using quantities of hot water, in douches, which should be taken, when possible in the recumbent position, and these as often as possible.

You will find these two remedies (hot water and rest) will favor repair of the broken tissues and promote the condition of subinvolution, which nearly always accompanies a cervical laceration in the early stages.

Electricity is of material advantage in some of the more chronic cases, a properly given galvanic current to act as an astringent and antiseptic, aid in controlling the hemorrhages and catarrhal conditions in some cases present.

I wish to thank the essayist for the list of useful remedies suggested and the way in which the subject has been handled. .

W. A. Jenkins, (Closing): I wish to thank the doctors for calling my attention to omitted points brought out by the discussion. I endeavored in my paper to apply my remarks chiefly to the cases as they appear at the doctor's office and not on the operating table. I believe with Dr. Anderson that many cases of laceration exist without urgent symptoms, and that until disturbing features arise, these cases will do without repair. But, the woman should be under observation, and when danger of invalidism or malignancy threatens, act promptly and thoroughly. As to the repaired cervix giving way under the strain of childbirth, this is also true in many cases, more so, the more recent the repair. No repaired cervix should undergo the strain of labor within two years after its restoration. However, when labor does take place, whether in one year or in five, and the attendant finds the strain on the cervix is dangerously severe, he may make a sufficiently deep incision on each side of the repair and save it from giving way. These conservative incisions usually heal quite promptly. It takes time for the muscle fibres of the cicatrix of the cervix, or in any other part of the body to become cohesive and elastic to a normal degree and rupture under strain is common. Neither the immediate nor delayed repair of the cervix has a place to-day, in operative obstetrics unless the tear extends high toward the uterine body and involves larger blood vessels the hemorrhage from which cannot be controlled by packing. Here the operation is that of an emergency. The objections to the operation are, the greater danger of sepsis, and the incomplete results obtained in suturing a flabby, boggy mass of tissue in which tight sutures will cause sloughing and loose ones will relax as shrinkage of the cervix proceeds.

In reply to Dr. Senour I would say that I formerly used electricity in these cases much the same as he does to-day. I gave it up because of the annoyance of the primary cell, and because the alternating current supplied to this section is unsteady on account of varying load conditions and the current cannot be rectified completely so as to make it safe to the patient. The faradic current will aid in reducing a flabby uterus and cervix, and the galvanic will aid the healing of a laceration especially so, if drugs are driven into the tissues by cataphoresis. According to the chemicals used, a stimulant, sedative, caustic or astringent effect will be produced on the tissues. It must be remembered also that a certain amount of the metal of the anode will be carried along with the drug.

Electricity may do the chronic case much good, but is almost sure to do harm to the early or acute case.

Dr. Young believes in much rest and hot water. I must endorse his views. Just as much of both as you can secure, and then some more. However, family conditions may limit the first, and the patient's reaction—nausea, prostration, etc.—limit the last. Good judgment must rule, and when the limit of endurance is reached, be ready to advise some other method.

LA GRIPPE.*

By H. C. CHANCE, Cumberland Gap.

A pandemic disease appearing at irregular intervals; its rapidity of extension and the number of people affected being one of its greatest peculiarities.

Following these pandemics there are usually several years of more or less extensive epidemics in different regions.

The clinical aspects are protean with a special predilection for the respiratory tract. It is caused by the "bacillus influenzae" of Pfieffer. Great pandemics of it have been recognized since 1532 the last and perhaps the greatest spreading from east to the Caucasus in May 1889 to the Golden Gate by the end of December following.

An endemic in a given locality usually lasts about six weeks and affects approximately 40 per cent. of the population, with a mortality of 1-2 to 1 per cent. most of this being due to a complicating pneumonia.

There is in all likelihood another disease that bears the same relation to this that choleras bears to true Asiatic cholera.

1st. The respiratory type of the disease is far the most common, beginning in the simple cases as an acute coryza with rather more prostration in fact the extreme prostration, out of all proportion to the clinical symptoms is one of the most constant signs.

After this initial coryza and almost simultaneous will be more or less bronchial disturbance with rise in temperature sometimes delirium and a condition very much resembling typhoid.

There is no special distinction about the bronchitis but I have come to look on the hard dark coin-like sputu, greenish-yellow in color as pathognomonic.

"La grippe penumonia" is one of the most serious turns the disease takes and may depend on "Pfeiffer's" bacillus alone or a mixed infection. This is nearly always lobular probably never croupous. Most of the immediate mortality depends on this condition and I have observed very few recoveries among old or debilitated patients with this type of the disease.

2nd. Without any catarrhal symptoms, severe headache, backache and joint pains may come on and may be followed by almost any known lesion of cranial or spinal nerves and depression, neurasthenia, melancholia and even dementia.

Many forms of neuralgia and neuritis follow and rarely meningitis and abscess of brain, especially following middle ear complications.

3rd. Gastro-intestinal type said by Osler and others to be rather rare in the United States, but has been fairly common in my experience. With the rise in temperature we have nausea and vomiting and sometimes pain diarrhoea and collapse. Jaundice seems a fairly constant symptom with enlarged spleen, the latter said to be due to the fever.

4th. A febrile form which may be remittent, lasting two or three weeks, and having a very close resemblance to a typhoid. Again the fever may resemble a tertian malaria.

The complications represent just about the entire catalogue of human ailments from meningitis to orchitis and it is truly appalling how many people we meet who are seriously crippled in some organ or function by la grippe and I am sorry to say by our efforts at cure.

The diagnosis is fairly easy in the presence of an epidemic and we are usually safe on that score if we bear in mind the very profound depression—out of all proportion to the symptoms present, and of course we have a bacteriological method that is almost always sure.

Prophylaxis is very hard to carry out on account of the many very mild cases who go about scattering the bacillus promiscuously in houses, halls, churches, cars, etc. If the secretions of nose and bronchi are disinfected it goes a long way in the right direction. The aged should be very carefully guarded from infection, and all cases should be regarded as serious and the patient put to bed and kept there until free from fever.

The treatment should always be supportive from the first. A good dose of calomel is my first attempt, and if the respiratory tract is showing the principal infection I usually give atrophine, aconite and strychnine for effect, the first to minimize the bronchial and nasal secretion and leave as little residue as possible to cough out after convalescence should have begun. Aconite to equalize circulation and its effect on the temperature and strychnine to aid in overcoming the ever present depression; this is practically all the treatment I give in this type of cases, sometimes giving five to ten grains of aspirin for headache, high temperature and pain.

I have long since discarded the coal-tars from any participation in my treatment. If forced to give anodynes I rely on morphine for everything beyond the reach of aspirin except in the very young and the very old, and had rather risk it here than any coal tar remedy I have ever tried.

In the nervous type calomel followed by strychnine, zinc phosphide, passiflora, asperin and as a final, morphine, has so far constituted my principal treatment with, of course, dry heat and absolute rest. Neuralgia and neuritis are less often seen after this line of treatment than after acetanilid, quinine and whiskey. In fact this disease is where I first lost faith in whiskey as a remedy. It was so disappointing here that I began to watch to see if I was getting the results in other things that I had thought I was getting.

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*Read before the Bell County Medical Society.

In the gastro-intestinal form calomel in small, oft-repeated doses, is the best relief for nausea and vomiting, followed by some of the more pleasant forms of saline and then by sodium sulpho-carbolate with bismuth subgallate and careful and systematic feeding, usually covers the case. Sometimes the diarrhoea calls for atrophine to prevent collapse with rectal enemas of hot normal salt solution, and if pain and cramping are present of course morphine to relieve.

The febrile cases purely as such give us most trouble in the diagnosis to differentiate from typhoid. The treatment is rest and support and here we may get some help from the water cure as bathing carefully, to avoid chilling, will control the hyperpyrexia as safely as any other method we have but must be done very carefully and not as we would bathe in typhoid.

Don't make the mistake in this and give acetanilid or any of its many patent or secret forms for the fever and pain. If you do you will have a very weak, anaemic patient and may have a severe myocarditis or a pronounced neuritis for they both seem very prone to follow this type.

I have never seen but three of this type and in each case a diagnosis of typhoid had been made and two of them had myocarditis and the other still has a sciatic neuritis.

The sequelae are like the complications—the number being practically our known diseases and almost all of them are apt to show up in any extensive epidemic.

Tuberculosis as a sequel or as a pre-existant complication is almost always hurried to a fatal end, especially the pulmonary type.

Pneumonia with, or following soon after, is a very severe complication and as recited above is many times fatal in aged or debilitated patients. Otitis media and its extensions are occasionally seen and they demand here the same treatment as when caused by any other germs as they are usually mixed infections; always bearing in mind the exhausted condition of our patient.

Appendicitis is given by some authors as a common sequel. If it comes, it demands the same treatment as under other conditions.

I have seen a good many cases of hepatic torpor with swelling and tenderness of the liver in earlier epidemics but have seen none since I quit whiskey in the acute stage—possibly a coincidence.

The persistent muscular soreness is best relieved by massage and bryomia internally.

The nervous and mental condition left by many cases are the *bete noir* of the doctor's existence. The cases where there is just a profound depression of all the forces will usually recover with prolonged rest and supportive treatment—dietetic and medicinal.

The temptation to crowd strychnine to tolerance must be resisted in most cases as we will by this course soon exhaust the patient's responsive powers.

The painful neuralgias are nearly always due to neuritis and should usually be treated as such, avoiding carefully all depressant treatment. Here we rely chiefly on iron, quinine, arsenic and strychnine with supporting diet and sometimes get benefit from galvanic and static electricity.

As you have now learned I have merely skimmed the surface of this subject, but this is all I am able to cover in a reasonable time.

CARDIAC HYPERTROPHY AND RENAL DISEASES.*

By J. E. Wilson, Butler.

This does not include heart hypertrophy from various other causes, as from valvular lesions, from contracted arterial system, from arteriosclerosis, from muscular effort, and from pregnancy.

One author says that hypertrophy of the left ventrical belongs to Bright's disease as much as dropsy, albuminuria, or uremia. It is one of the cardinal symptoms of the disease. A hard, wirey pulse in the absence of fever or other diseases, is in itself enough to indicate to the careful observer a failing kidney. And the sign is all the more valuable in that it shows itself early in the insidious disease,—months and sometimes years before nervous symptoms, dropsy, or failing nutrition. It is said that a change in the character of the pulse can be detected in the course of from two to four weeks from the inception of the disease, at which time kidney changes have taken place.

As to the cause, there are chiefly two theories advanced, viz.: that it is caused by either the irregular and unusual irritation of the heart, produced by the changed condition of the blood, or, by the call upon the heart for increased activity to force the blood through distant contracted blood vessels.

Familiarity with the use of the sphygmomanometer in this study is important. There is a widespread belief that hypertension is in itself a disease toward which medical and therapeutic measures must be directed. This is as much a mistake as it would be to consider icterus or albuminuria diseases in themselves. Hypertension is merely one manifestation of some underlying pathological condition, the recognition of which is essential to diagnosis and treatment. Another erroneous notion is the confusion between arteriosclerosis, and hypertension. Recent work has shown that abnormally high blood pressure occurs in barely half of the cases of real arteriosclerosis of the peripheral vessels, and that, even in these cases it may be due to some other cause. Where the artery to be tested is very much thickened, the resistance of the arterial coat itself to compression must be taken into consideration in estimating the significance of an apparently increased blood pressure. This source of error may be detected or eliminated by taking the blood pressure in the other arm or in either leg. Arteriosclerosis never affects all the arteries alike, so that, in some of them, the apparent blood pressure will be nearer the real figure than in others.

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*Read before the Pendleton County Medical Society.

Clinically we have the very important observation that hypertension and heart hypertrophy come in the group of renal diseases in which uremia is also prone to occur,—while both fail in practically all other forms,—as tuberculosis, pyonephrosis, hydronephrosis, cystic kidney, and the kidney of acute sepsis. In other words hypertension, like uremia, is an evidence of renal insufficiency. It is naturally suggested that the poison of uremia is identical with that causing hypertension,—or if different, is formed at the same time and due to the same causes; or possibly one is the derivative of the other as the result of some process of chemical disintegration. If the same poison, it is possible to conceive that, in small amounts, it affects the vasomotor apparatus (hypertension) and, in large amounts, exerts a tonic effect on the nervous system (uremia).

Or, if two or more poisons are concerned, each may have special affinities. In support of this chemical theory we have the frequent clinical experience that the degree of uremic manifestations (headache, vomiting, unconsciousness) and the recovery from these, have a close relation to the blood pressure. Also, true uremia without hypertension seldom occurs.

In connection with this clinical theory, or retention theory, the effect of diet is also suggestive. Experiments on patients with chronic nephritis, have shown that rich protein diet increases tension and disturbs the general condition of the patient for the worse. One observer describes an individual in whom a change from milk and carbohydrate diet, to rich meat diet caused pressure to rise from 140 to 190. Rich meat diet causes, in nephritis, headache, one of the earliest and most constant symptoms of uremia, and one which has a definite relation to hypertension. The increase of these nitrogenous substances in the blood, of that group of renal diseases in which uremia occurs, suggests that, not only may they be the cause of uremia, but that, among them may also be the substances responsible for the increased tension.

Aside from this theory, which attempts to explain clinical observations, we can at present add nothing to the view that hypertension is to be explained by retained products of metabolism.

It is still a question whether the kidney injury is primary and leads to arteriosclerosis as a result of hypertension of renal origin, or whether a poison first affects the blood vessels, and the kidney secondarily through the disease of its own arteries.

On this general subject some light has been thrown as the result of the study of renal diseases following infectious diseases in which hypertension seemed to be primary and heart hypertrophy and arteriosclerosis secondary. The hypertension associated with glomerulonephritis of scarlet fever is of interest. Usually one thinks of hypertension coming on gradually in the course of a chronic disease, but in scarlatinal nephritis it may develop very early; indeed in the course of a few days. Here certainly heart hypertrophy and arteriosclerosis can be ruled out, for, in scarlet fever four weeks, at least, are necessary for hypertrophy, and scarlet fever age is not that of arteriosclerosis. For such an early hypertension the only explanation which can be offered is increased peripheral resistance,—a contraction of the arterial terminals—as a result of some chemical influence; but this brings us again to the theories discussed, concerning which we cannot yet definitely conclude.

RATIONAL AND PRACTICAL SANITATION AND HYGIENE.*

By W. G. KINGSOLVING, Eddyville.

"An ounce of prevention is better than a pound of cure." It is better to prevent smallpox, consumption, cholera, or any other disease, than to try to cure it after it is in progress. The demand of the present day is to prevent disease, and the time is coming when physicians' special duty will be, not so much to cure disease, but to teach the people how to keep well

Formerly smallpox was a dreadful scourge, and when it made its appearance the people were horror-stricken, and well they might be because it was one of the most loathsome diseases, and death claimed at least one-half of its victims; and the other half that survived were so disfigured that they were horrible to behold. But the immortal Jenner taught us how to prevent this fearful plague, and now by vaccination and quarantine it is shorn of all its terrors, and at present is one of the mildest of the contagious diseases; and if we could ever get the people to relinquish their ignorance and prejudice in regard to vaccination, we could entirely blot it out.

Cholera was formerly like a horrible monster, stalking over the earth, destroying thousands and even millions; and now in countries where the people are crowded, filthy and ignorant, it is a great scourge; but among enlightened nations, by proper quarantine and intelligent application of sanitary science, they are enabled to save the nation from fearful destruction.

Diphtheria, like a destroying demon, has, for thousands of years, traveled all over the world, held high death carnival, and filled the earth with weeping and mourning, because we had no way of checking its cruel onslaught. But thanks be unto science! A remedy has been discovered by which thousands have been saved from death and millions more will be saved. Antitoxin will not only prevent the disease, but is almost certain to cure it after it is in full progress.

Before this remedy was known, physicians sat by the bedside of children and painfully witnessed them dying a most horrible death, they being conscious all the while and the last agonizing look would be a heartrending plea for help that could not be given.

But since the use of antitoxin such scenes have changed. In the majority of cases, in a short while after the first dose, the scene of suffering and death is changed into tranquil relief, and life is restored to the little sufferer.

For one hundred and fifty years yellow fever plagued Havana. It was thought that the infection was carried in clothing. To prevent the introduction of it into this country, a special quarantine was maintained from the Rio Grande along the Gulf coast, around Florida, and up the Atlantic to Charleston, costing annually hundreds of thousands of dollars, and not keeping out a single case of yellow fever. The mosquito, the carrier of the infection was disregarded, and when the discoverer, Dr. Carlos Finley, announced his discoverey, they scoffed at the truth, and derided Finley.

"The darts of ridicule flew at him from every quarter. Editorials in lay and scientific prints showed how foolish were his contentions. Amidst all this ridicule and derision, Dr. Finley stood alone, calm and confident, and now he has his honor."

"Truth is born in pain. The yellow fever quarantine is now a thing of the past, and we smile sadly at mention of it." The treatment of the disease is revolutionized.

During the Spanish-American war, Dr. Walter Reed verified the correctness of the theory advanced by Dr. Finley, and with Reed at the medical department of the army, yellow fever has almost been stamped out of Cuba, Porto Rico, the Philippines, and all other tropical regions under the flag of the United States.

The account of the work done by sanitary science in the Philippines and the Canal Zone reads like a series of angelic miracles.

The water supply at Manilla was greatly improved by the introduction of mountain water at a cost of $2,500,000 and by artesian wells in many other towns; the food supply was properly regulated; $2,000,000 were spent in the proper sewage system; by inoculation with cholera lymph, the victims were greatly reduced. By a wholesale vaccination the most violent kind of smallpox was practically stamped out. By a general crusade against rats and a cleaning up of their foci the terror was taken out of Bubonic plague, malaria was greatly lessened by a destruction of the mosquito.

Beri beri has been a great plague for a long time in the Philippines, and other countries, because they did not know the cause of it. But now it has been proven to be caused by the use of polished rice as food and now a change to the unpolished rice has practically stamped out the disease in the Philippines.

The Panama Canal had been in contemplation for a long time. The French undertook the project at one time, but failed principally because they did not understand scientific sanitation, and the yellow fever and malignant malaria destroyed them so fast that it was impossible for them to proceed.

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*Read before the Southwestern Kentucky Medical Society.

It took us two years to make the necessary preparations before we could begin the work of excavation and construction. Thoughtless people were criticising every effort made and prophesying dismal failure. But the work was in the hands of Colonel Gorgas, a medical officer, who had acquired his knowledge in Havana, and with the government behind him, he changed the pest-ridden zone into a district as free from disease as any of the states of the South. He stamped out yellow fever and reduced the malignancy of malaria to such a point that the percentage of deaths among the foreign population of the zone is considerably less than in our large cities. He has made the zone a pleasant and healthful place to live in.

This is a wonderful record and reflects a halo of glory upon sanitary science, and shows what our medical profession can do when properly backed by the government; and proves beyond doubt that our profession should be represented by a cabinet officer at Washington, as the head of the Health Department of the United States.

A great deal has been done by serums, vaccinations, antiseptics, and scientific sanitation to prevent and cure disease; but we need more common sense, practical hygiene. We need to propagate a more healthy race of people. We need to live more according to nature's laws and thereby be stronger and more able to resist disease. We need to quit living in such a way as to produce disease. We fight the germs of disease, but violate the natural laws of health, and enfeeble our bodies, and thereby become an easy prey to disease. Why did the ancients live to be almost a thousand years old? Because they lived according to nature and nature's laws; but we die young because we live an artificial life. We study hygiene and teach enlightenment, but practice worse than heathenism. We laugh in derision at the Chinese woman who compresses her feet and makes them so small that she can not walk on them; we ridicule the flat head Indians, made so by the heathenish custom of compressing their heads in infancy; but, on the other hand, by our cruel, absurd fashions, lace our women to death and raise up a nation of weakly men, born of these deformed and miserable, suffering mothers.

It is all right to have fashions and styles; and it is a fact that any fashion looks all right when we become accustomed to it; therefore, if we would act with wisdom and common sense, we would not tolerate any fashion or style that is deleterious to health.

Why is it that so many of our women are invalids? Why is it that a real happy woman, with natural rosy cheeks, a tranquil sparkle in her eye, and her soul full of life and joy, is a curiosity, if ever found? The weakness of the mother is inherited by the daughter, and the same absurd fashions are practiced, and so the evil defects are multiplied, increasing from generation to generation, like an avalanche rolling down the mountain side, until a nation becomes universally weakened.

Why is it that so many women have uterine and ovarian troubles, and hundreds of gynecologists and surgeons are kept busy cutting and carving and removing these organs from these suffering invalids? Common sense teaches us that it is the customs and fashions of false cultivation.

Then it is the duty of the medical profession to teach the people how to prevent this horrible condition. The world is dependent upon the medical profession to mould public sentiment in favor of healthy styles and fashions and a rational mode of life.

FOOD.

We can prevent a great deal of disease by being careful about our food. "We must eat to live, and not live to eat." Be temperate in all things. More people die by eating too much, or by eating the improper food than by the abuse of alcohol. In the United States, sixty thousand die every year, yet far more die from intemperance in eating, and errors in diet. When you go to our cemeteries, why do you see so many short graves? Because so many infants are fed to death. A great many medical writers say that three-fourths of our sickness is caused by intemperance in eating. We commence in infancy teaching the babies to eat all the time and thereby create a morbid appetite. Even among doctors we think we cannot get along without the midnight banquet; and eat and drink and gormandize like gluttons. It is a universal custom among us so-called civilized people to think we cannot properly entertain our friends without feeding them to satiety. This inordinate desire for eating is almost universal, and consequently we are a nation of dyspeptics, weakened by intemperance in eating, and therefore an easy prey to the germs of disease.

Autotoxemia, autoinfection, autointoxication,—what do we mean by these terms? This means a poisoning of our own secretions through a failure of sufficient elimination, often produced by excess in eating, filling the blood with an excess of nutrition, thereby overpowering the phagocytes so they cannot ward off the germs of disease, and even rendering the blood a veritable culture media for the propagation of disease germs.

Anyone that eats too much is more apt to contract pneumonia, typhoid fever, or any other disease, than if he is temperate in eating.

Therefore, it is very important that we be temperate in eating and in all things if we expect to attain to the highest point in health, and enjoy a long and happy life.

Sunshine, pure air, exercise, and proper rest are the *sine qua non* to health and longevity.

Don't be afraid of sunshine. So many housekeepers darken their rooms and shut out the sunlight. This is contrary to the laws of health. Sunshine kills germs, dispels gloom, promotes health. Let the sunshine into your homes. Let the sunshine into your sick rooms.

PURE AIR.

Why do we breathe? To get oxygen into our bodies, to keep up the internal fires of life, to eliminate the carbon dioxide and waste and replace with new and live atoms.

Therefore it is very important that we properly ventilate our houses, and live out of doors as much as possible to get the purest air.

EXERCISE.

Action is the universal law of creation, and the glory of the Creator is seen only through his mighty works. Inanimate creation is in perpetual motion. Seas and oceans forever roll and thousands of planets continually whirl in their orbits, all exhibiting the grandeur of creation, and the glory of God.

Action is life, inaction is death. Proper exercise, fresh air and sunshine promote deep breathing, expand the lungs with pure air, fill the blood with the oxygen of life, develop the muscles, tone the heart, paint the cheek with the rose tints of health, and fill the soul with bubbling joy and life.

But we must remember, with these we must combine proper rest, recreation, and sleep.

These are the principles upon which we are to rely if we wish to prevent dyspepsia, liver troubles, heart failure, apoplexy, tuberculosis, and many other dreaded diseases, because disease is generally the result of violated law.

Obeying the laws of health not only prevents disease, but is of the greatest importance in restoring our invalid to health.

Julius Cæsar, "the foremost man in all the world," according to Shakespeare, was at one time an epileptic; but by abstemious living, strictly observing the laws of hygiene, regained his health and by his power and genius revolutionized the history of subsequent ages.

Former President Roosevelt, in his early manhood, was in delicate health. He went to the west, turned rough rider, lived according to nature's laws; regained his health, and ever since then his intelligent judgment has led him to exercise a great deal out of doors, and by so doing he has maintained a most noted vigor of mind and body.

NATIONAL GREATNESS.

Living according to natural laws makes a great and strong nation; but the violation of the laws by the cruel edicts of pernicious fashions, causes a nation to go down in dishonorable oblivion.

Greece and Rome were at one time the greatest nations of all the earth, because their citizens possessed a harmonious blending of physical and mental culture. They patronized the gymnasium, cultivated the natural shape and development of the body, tolerated no fashion or style that would enfeeble their women and weaken their men, and the consequence was that their women were models of beauty, and their men were illustrious examples of physical and mental greatness.

Who has not heard of the Grecian model for feminine beauty of figure? "And in that elderly day to be a Roman, was greater than a king." It was Rome that sat on her seven hills and from her throne of beauty ruled the world." But alas! Luxury, ease and indolence took hold upon them. They abolished the gymnasium and learned to hate physical exercise and any great mental exertion; reveled in the viands of the table, and lived like gluttons. They soon became delicate and weakly, both in mind and body, and consequently they were an easy prey for the powerful bands which surrounded them, and these great nations went down in sorrow and shame.

But on the other hand the Japanese nation bids fair to be the foremost country in the world. They commence training and developing their children physically at three years old, and have a grit and endurance equal to the ancient Spartans.

These people are temperate in all things. They are not such awful drunkards and gluttons as we Americans are. They live on a very simple diet, and are not a nation of dyspeptics like the Americans. They are strong and healthy. The ration during their war with Russia was a very limited amount of rice and fish. The army was under the critical scrutiny of a competent medical corps. When they were ordered to boil their drinking water, they did so, and they observed all the rules for health to the minutest detail; and although they lost a great many men by bullets, their loss from disease was the smallest ever known in any war. They were always well and able to fight and they astonished the world in battle, and exhibited a courage and tenacity and valor unsurpassed in all the history of wars.

Right here the Japs have given the world a lesson which has been taken by our military department. In 1911, when our army was mobilized on the frontiers of Mexico in great numbers, they inoculated every soldier with typhoid antitoxin to prevent typhoid fever, and strictly observed sanitary laws, and the result was comparatively no sickness. This was a grand achievement and if we will apply these principles in civil life, the result will be far more grand and glorious. Our people will be healthy, happy, and contented. Our men will be a harmonious blending of physical vigor and mental culture. Our women will be more healthy, more beautiful, more lovely, more divine.

THE DIAGNOSTIC SIGNIFICANCE OF BLOOD PRESSURE.*

By Vernon Blythe, Paducah.

Blood pressure has been an interesting study to medical students since the earliest records of medical history. The diagnostic significance of the pulse beat is one of the A. B. C. of medical science. The pulsus passeur and tardus, the pulsus alternus, celer, bigeminal and trigenieness, the pulse paradox, the full pulse, the large pulsus, the small pulse, the running pulse, the wiry pulse, the dicrotic pulse with others, reveal to us the interest with which students of medicine have considered condition of the blood pressure.

Sphygmograms, sphygraphs, manometers and sphygmomanometer are only old terms made modern to reveal to slothful students more easily, clear understandings of the terms pulsus passeur, tardus, wiry, dicrotic ad libitum. The advantage of the modern way is accuracy and tangible numbers.

The determination of blood pressure by modern methods is a translation of the force or pressure required to obliterate the arterial pulse into the heights of a mercury column of an accurately measured manometer. This is done by applying a hollow armlet midway between the shoulder and elbow, the armlet is inflated by a hand bulb until radial pulse is lost, the pressure is gradually lowered until pulse is barely perceptible. The height in tube or in the cardiac type the pendulum marks the maximum blood pressure. The maximum height is the systolic and the minimum is the diastolic pressure, the latter will read on an average of 25 or 40 below the systolic. The normal systolic pressure in a young adult is 100-130, in older persons up to 145, while in children it is 90-110 and in infants of two years it will be 75 m.m. of Hg.

The physiological causes of blood pressure depend upon several factors, all of which are of more or less importance.

First to be named might be, the ventricular systole or the muscular contraction of the heart muscles, then the viscosity of the blood, next the volume of the blood and then of greater importance than any but the first is the peripheral or capillaries resistance. Blood pressure is normally higher in the morning, after mental and physical exertion. Standing or sitting postures increase blood pressure.

Of the factors upon which blood pressure depends, heart energy is of prime importance. The quantity of blood expelled in a given time is a measure of the ventricular systolic power. When the quantity decreases, the pressure falls, this is evidenced by slowness and smaller volume of pulse. If the ventricular systole's power is increased without acceleration of pulse, the blood pressure is heightened. The second most important factor in blood pressure determination is produced by peripheral arterial or capillary resistance. Loss of toxin in capillaries will lower the pressure. Any constrictor influence over peripheral circulation will increase blood pressure.

There is another way of looking at the physiology of blood pressure, namely as hydrostatic or the sp. go. form acting. The effects are seen in old patients, often inducing pneumonia, fainting and vertigo following removal of cystic tumor or emptying by catheter a full bladder.

Hydraulic pressure means contraction of heart against tension of blood vessels. There are many factors which must be accounted for in explaining this pressure, namely as mentioned above, the capillary resistance, this becomes negligible as the blood passes into the veins, for it is now passing to larger vessels. Second, the inherent elasticity of arteries must be taken into account, which varies in different individuals. This elasticity prevents rupture and normally would stand 15 to 50 times the ordinary pressure.

Third, tone of muscle cells play a great part. There is a semi-contraction evident in the cells, responsive to mechanical stimulus and stretching, activity of the vasomotor centres and blood pressure.

Fourth, the secretion of the ductless glands, which, in recent years, have been intensely studied, are found to be closely related to the sympathetic nervous system. Disease of which brings about a lowered blood pressure.

The products of adrenals has been demonstrated to be necessary to maintain the tissue of the blood vessels. Where necrosis of the suprarenal glands has been proven, the pancreas has become excessively active.

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*Read before the McCracken County Medical Society.

Chloroform, toxins of influenza, diphtheria causes a marked lowering of blood pressure by their distinct depressing action on these ductless glands.

Thus adrenalin has been used with success in asphyxia, chloroform poisoning, inaccessible hemorrhage and shock. The physiological action of the secretion of the ductless glands is a broad study and the above is only an illustration of their function as brought to light in recent years.

The amount of blood in the vessels bear a large part in the analysis of blood pressure. Normally the blood comprises 1-13 of the body weight or about two litres 166 plus z. For life to be sustained it is necessary that a sufficient amount of blood should come into the heart to excite strong systolic action. Large spurting vessels have a greater tendency to lower blood pressure than hemorrhage by oozing, because it is harder to obtain compensatory action.

VASOMOTOR NERVES AND CENTRES.

Shock and serious fall of blood pressure will often occur, not so much due to nervous exhaustion as a failure of the peripheral resistance to respond to nervous influence or stimulation. The muscle tissue is at fault Vital processes are brought about by a proper balancing of the two opposing nerve forces in the body The vasomotor constrictor and inhibitory nerve forces regulate the blood supply to the different organs of the body. Then nerves are stimulated by irritation of the sensory nerves. Overstimulation of the constrictor nerve, however, will let the gaps down, lower blood pressure.

There are certain drugs, as strychnine, caffeine; atropine, digitalis, adrenalin and cold which act on vaso-constrictors or raise blood pressure, while alcohol, ether nitrogen nitroglycerine, aconite, thyroid extract and chloral which bring about a lower blood pressure

DISEASES WHERE LOW AND HIGH BLOOD PRESSURE OCCUR.

High blood pressure will be found exaggerated in patients with chronic interstinal nephritis, arteriosclerosis, uraemia,, gout, cerebral hemorrhage, acute nephritis, obstruction, etc.

Low blood pressure is found in all forms of anaemias, shock, collapse, cachexia, terminal stages of disease, etc.

The modern blood pressure apparatus will reveal much to those who use them. Many lives can be saved or years extended if physicians will read correctly the danger signals which are held out to us by careful study of blood pressure.

GONORRHEA OF THE FEMALE.*

By J. S. Johnson, Barlow.

In the beginning I had in mind to speak of those cases of gonorrhea found in very small children and young girls that were innocently or accidently infected; but as I have seen only a very few of these cases in private practice, I have taken the liberty to broaden my subject to gonorrhea in the female generally.

I think this is one of the most important subjects that the general practitioner has to deal with to-day, for it is through his hands these cases usually pass before they find themselves in a hospital and under the surgeon's knife. When we consider the fact that most of the ills peculiar to women and that the greatest per cent. of abdominal operations are due to gonorrheal infection; and that a large per cent. of the blind filling our institutions are due to ophthalmia neonatorum contracted from infected mothers, and when we recognize this disease as one of the most difficult to treat does it not behoove us to think seriously concerning the diagnosis and treatment of these cases.

One thing to be very much regretted is that all these cases do not consult a physician until they are forced to by some serious complication—an endometritis, salpingitis, or even a gonorheal peritonitis. They think that the discharge they had was a leukorrhea or the "whites" as they often call it; and that all women have that. It remains yet for them to be educated to the fact that a discharge is abnormal and that they should all be examined and treated.

It is also a fact that a great many of these cases are innocently infected by their husbands and do not know what their trouble is. So it is our duty to look upon all discharges and especially mucopurulent ones with suspicion, and to take specimens from all cases presenting themselves with conditions of this kind, for it is only through microscopic examination of the secretions or scrapings that an accurate diagnosis of these cases can be made.

Having determined the nature of the infection it then becomes our duty to begin heroic treatment at once, for if they are not seen in a very short stage of the disease the germs have already buried themselves beneath the squamous epithelium of the mucous membrane of the vagina, and are imbedded

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Read before the Ballard County Medical Society.

in its many folds; and are doubtless far on their way of ascending to the uterus and tubes, where once well established it is almost impossible to destroy them.

When I see these cases whether soon or late, I insist upon having them come to my office for treatment; because I think this is the only way they can be treated successfully. It is more than useless to give them medicine to use themselves in the way of douches, for they will not take them properly; usually in an upright position over a vessel, which is scarcely better than nothing.

There are many things used as local applications in the treatment, but the ones I have been most successful with have been the application to the cervix of a solution of silver nitrate or pure ichthyol, after having cleansed the vagina and vulva with a solution of permanganate of lysol, and afterwards placing a tampon of ichthyol and glycerine, to be removed the following morning by the string left attached. They are instructed to take a cleansing douche after the removal of the tampon; which is to be taken lying down in a bath tub, or on an improvised pad of oil cloth.

It is claimed by some that irrigations are useless if not harmful in the treatment of gonorrhea in the female, but it seems to me that nothing can take the place of a properly selected and properly administered douche. There are three things to be expected from an irrigation: 1st. they are cleansing and for this effect I especially favor the use of 1% solution of lysol, for it removes the secretions better than anything else I have used; 2nd, the solution should be as hot as can be borne, for heat is itself very detrimental to the growth of the Neisser bacteria, besides causing a passive congestion of the parts and aiding in the action of the leukocytes, and 3rd, the antiseptic properties of the solution which are certainly worth considering. In selecting solutions that fulfill all these requirements, one will find that a 1% solution of lysol or 1-1000 permanganate solution, used hot, in large quantities, from good elevation, and through a free-flowing tip, to be entirely satisfactory.

In giving a douche, the external parts should be held close so as to balloon the vagina thus bringing the solution in contact with all parts of the mucous membrane, then removing the hand and allowing it to be emptied, repeating this procedure till at least one gallon of the solution has been used. The irrigations should be vaginal only except in cases where the infection has ascended into the uterus, then, of course, it must be intrauterine.

After having cleansed the parts in the way described above the speculum should be introduced, and by the aid of a good light all the parts, and especially the cervix should be closely inspected and after removing all the remaining secretions with applicator and cotton the cervix should be touched with a solution of silver nitrate or painted with pure ichthyol and tampon put in place

These treatments should be daily at first and until the infection has largely subsided, then twice a week until repeated examinations fail to show the presence of gonococci in the secretions. We can not be too persistent in our efforts to secure a permanent cure in these cases; for it is the imperfect and quick cures that send our patients to the gynecologist and too often to an early grave to say nothing of untold sufferings and lives of sterility.

With regard to vaccine treatment, I think it is indicated in all cases where the infection has reached the tubes or ovaries, or when the joints are involved, and in the treatment of very small children.

One very essential thing in the treatment of small children is to destroy the source of the infection, for they often become reinfected. Care should also be exercised to prevent the infection of other children. In these cases I usually employ a Sitz-bath in bichloride, and an injection of a 20% solution of argyrol, which is best accomplished with a medicine dropper or an ear and ulcer syringe. This treatment to be supplemented in the chronic stages by the autogenous vaccine, looking well after the general health of the child.

While I have dealt with this subject only in a very general and scattering way I hope it will lead to a more thorough discussion and awaken in us a more definite understanding; and perhaps cause us to think more seriously of this rapidly spreading malady.

There is so much for us to do in the way of teaching our patients regarding this evil and it means so much to them and to future generations that we should become more to recognize our duty to society and to mankind and deal more honestly with ourselves and our patients.

Chronic Jaundice Caused by Tuberculous Peritonitis.—Mouisset and Gate describe a case of jaundice persisting for fifteen months. The symptoms caused them to hesitate between cancer and lithiasis and an operation was performed which showed neither, but demonstrated the presence of extensive peritoneal adhesions with contraction almost to the point of obliteration of the bile ducts. Careful study of the case convinced them that this was due to an old tuberculous peritonitis, in which the inflammatory process had involved the bile ducts. It is described as illustrating the necessity of extreme care in diagnosing similar conditions.

PELLAGRA.*

By H. P. Sights, Hopkinsville.

This disease has made its appearance in the last few years in our State, choosing for the place to be recognized clinically, in the State Hospital. It is useless for me to describe to you the origin of the disease and the country we believe that it spread from. As every treatise on this disease furnishes this information to the reader, and everyone who can pronounce the word "Pellagra," will tell you it was discovered in Italy. Therefore, we can but value the information furnished us by those who have made researches in this and other countries in Europe, where the disease was known and recognized long before our American Physicians suspected its existence among us. But in the last three years, it has gained a great deal of attention in certain localities in Kentucky and it is worth the attention in certain localities in Kentucky and it is worth the attention of every physician who is struggling to relieve and prevent human suffering, to give it careful study and aid in the discovery of its causes and cure, which is a secret unknown to the profession.

Many speculations are being made by those among us who are studying the clinical history, and the pathological processes through which the human system passes, after the infection, which so rapidly results in death.

For myself, I shall speak in the light of an investigation of two years clinical study, without the prejudice or influence of any writer that I might have studied, giving the deductions and impressions made from my own personal examinations; from such experience I can claim but one conscientious conviction and that is: Pellagra is a protozoan disease resulting from an infection of the blood cells themselves. This opinion is formed from a study of microscopical examination of the diseased blood from the time that it is first discovered, until a complete destruction of the cell organization, at which time the red blood cells show a complete disintegration and death occurs in a short time.

The seasons of activity as observed by the Staff of the Western State Hospital are clearly defined and are noticeably the latter part of May and June, reaching its most favorable period in July, then diminishing until December, first, leaving a period of about six months without development.

In discussing this disease it is important to consider the fact that the stage of excitement is passed and cold facts are now being reported instead of exaggerated and unreliable statistics.

Every serious disease when it first makes its appearance in a country is followed by very exciting reports and often very erroneous opinions are formed and faulty theories advanced. This disease is not an exception and at this point I would like to impress on the members of this society that the greatest fault that a physician can have is in justifying himself by saying, Billings, Welch or Murphy recommended this." How could you know that their information would apply, when every case has its own individuality and every disease its tricks, and often holds a trump card for you? Treat every case in the light of your scientific knowledge, guided by your own experience, and until a specific cause for pellagra is discovered, this is all you can do.

We are entering the third season of experimentation in the treatment and study of pellagra at our institution. I must confess we know as little, as to its cause as we did in the beginning. Yet we will work as hard this period of its activity, as we have ever done and with more hope and enthusiasm than ever before.

It is my purpose to give you a clinical history of the disease as it is manifested in the cases in the Hospital service.

CLASSIFICATION.

It is a general systematic disease involving the whole organism. Selecting for its invasion the blood channel. Characterized by nervous symptoms, very much like infectious psychosis. Accompanied by an eruption of the skin on the hands, feet and back of neck, and manifesting itself by a red tongue, activity of the salivary glands, very red mucus membrane of buccal cavity a greatly disturbed stomach, very little temperature, if any, until the last stage, and it leaves its mark on every system and organ of the body.

Its ravages breaks down every defense of the body and opens a field, fertile for the invasion and infection of every bacteria and especially from our experience, tuberculosis and hookworm.

Incubation period is not known, because the source of the disease is unknown, and any speculation as to this period would be unscientific. Therefore the initial symptoms are a matter of speculation and dispute, many claiming the nervous symptom is the location for the first manifestation of the disease. This opinion I am inclined to accept, and I would not be surprised that a good diagnostician, in the near future will be able to make out his case before the eruption appears.

I do not believe the disease should be classified as acute and chronic stages, as the whole system is involved in an attack. It only is a question of resistance of the constitution that prolongs the disease.

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*Read before the Christian County Medical Society.

There will be, however, a clear classification of the stages of the disease when we thoroughly understand its nature. There are fulminating attacks that progress to a termination very rapidly, usually in from two weeks to a month duration. The less severe attacks have a period of cessation, owing to the influence of seasons on the disease. The mild attacks sometimes recovered completely but these cases are very few.

The first symptoms noticed are usually given after diagnosis is made and are usually inaccurate, because the memory is relied upon instead of clinical observation. The usual history of the beginning of the attack is as follows: Attention is called to the patient, by nurse, or patient consults a physician, for a bilious spell, with what you might call a spring fever. Lassitude, general malaise, lack of appetite and sometimes nausea. A great desire to rest, occasional relaxation of the bowels, burning sensation in stomach, coated tongue, with enlarged papilla, very red at the tip. Also burning sensation of hands and feet, all are very suspicious but these symptoms represent a period of pathological introspection, rather than of an objective disease.

However, these symptoms make a physician both silent and careful. These symptoms are followed by noises in the ears, vertigo, weakness in lower extremities, headache, usually at the base of the skull, conversation, slow; increased reflexes and a very much depressed condition. You will find at this time the backs of the hands covered with a dermatitis, resembling a sun burn of light attack. The tint of a full ripe plumb in severe cases and a light brownish tinge in lighter cases, always a history of increased flow from salivary glands .

There must be considered the temperament of the individual. In the blond you get the deep red tinge, in the brunette the brownish tinge. You will, in severe cases, find the same dermatitis on the neck, throat, feet, knees, forehead and face. The pulse is fast and weak, indicating general debility. The lips are often scarlet red, the food burns the throat when swallowed, a very offensive odor of all the secretions, formation of gas and diarrhoea. However, the diarrhoea is not always present by any means, but when present is a very fatal symptom. Catarrhal condition of all the mucous membrane. The facial appearance of the patient is that of anxiety, and very rapid emaciation, even greater than tuberculosis.

There is as much variation of symptoms in this disease as any disease I ever observed.

The period of recession will often make you think you have found a cure for the malady but you will be undeceived when the next season of activity arrives.

This period is characterized by a cessation of the symptoms, patient feels better, pain disappears, appetite returns.

The nervous symptoms are the most distressing. The very presence of the disease causes the patient to fear and forbode. The eruption affords him a sense of filth and repugnance. The deeper tissue changes in the brain results in an infectious psychesis, producing an organic basis for pains and tremors, tottering gait, and a general paretic appearance, inanition and death follows.

There is an excess of fluid in ventricle and a hyperaemia in the meninges, found in the autopsy.

I shall not go into the pathology as our research is not complete and the autopsies are so unpleasant, we have not satisfied ourselves as to the complete changes found.

The blood changes during the disease as referred to above are a very marked characteristic of all the experimentation and investigation made. I think Dr. Sambon is the most conservative and correct in his researches, of any of the writers on this disease.

It is the acknowledged opinion that the disease is no respector of age or sex but it does respect class, in that it is rarely found in the better class, especially the persons who are well nourished and observe the laws of hygiene and sanitation. This is a factor, however, is true in the protection against every systemic disease.

TREATMENT.

I am under obligations to Dr. Campbell and Dr. Robinson for their careful observations of the treatment used. They are partial to the arsenic treatment after the use of many drugs. I, myself, think there is no specific treatment as yet, and any one of the drugs that will build up the system will do good, but not cure. Arsenic, sulphocarbolate of soda, sulphide calcium, with nutritious diet, pure air and good hygiene is a logical treatment, in the light of our present knowledge of the disease.

After all that has been said about pellagra, we must consider we have with us a terrible malady to deal with, one that is unrelenting and tenacious in its nature but with the help of science we will conquer it at last.

It has come to us from the old world like all other plagues, and the medical profession will have to meet the foe as it has done in the past, with the same conquering spirit that Dr. Jenner possessed.

The immigration of the Italians in the mining camps, I am sure, spread the disease in this country, as the locality of these camps and along the streams leading from them, it where the majority of cases are found and where the disease was first discovered.

Let us no longer contend that the product of corn or any other food produces the disease, but accept it as a loathsome disease, whose germ originates from an unsanitary class of people, but dangerous never the less.

THE UROLOGICAL ASPECT OF THE MICROSCOPE AS A LOCALIZER OF DISEASE.*

By Carl Lewis Wheeler, Lexington.

More than thirty years have elapsed, since the Viennese Anatomist, the late Professor Karl Heitzmann, announced and demonstrated, that with sufficient magnifying power, the epithelial lining of the various organs of the uro-genital tract could be differentiated in the urine, or in thin sections *in situ*. Hence, the fact, *then* was established, that urinary findings were the "first principles" and the very foundation of urology. These truths have been handed down to the eminent son, Dr. Louis Heitzmann; in whose laboratory the writer, (at the suggestion of the late Dr. Ferd C. Valentine) began work as a skeptical student during the winter of 1905-6. As he familiarized himself with the methods and became acquainted with the technique—this skepticism vanished; and within the past six years these methods have never failed to determinate the source of a pyuria or haematuria.

In order to see and clearly define all the features in any given specimen of urine, the amount must be carefully prepared, on a slide with cover glass, using a magnifying power of at least 450 diameters.

The time allotted, will only permit a casual moment upon epithelia and concomitant findings, and for a detailed description and study of this subject, reference must be had to Heitzmann's "Urinary Analysis and diagnosis," (Wm. Wood & Co.,, 1906) for in no other publication will you find any portrayal worthy of study or in the least degree enlightening.

Pus corpuscles occurring in urine (even in small amount) are an indication of an abnormal process somewhere in the urogenital tract, if scanty it is not necesarily an inflammation, but undoubtedly an irritation; if in moderate numbers, the diagnosis of an inflammation can be made, which is the more pronounced the greater the number of pus corpuscles; when they are very numerous, the diagnosis of an ulceration or suppuration may be made—but not without other features. And the location of such a process is determined by the character of the epithelia found.

In the uro-genital tract we find three kinds of epithelia, viz.: flat, cuboidal and columnar. The arrangement of this epithelial lining, is either in single or stratified layers, and when all three varieties are present, the flat compose the upper layer; the cuboidal the middle layer, and the columnar the deep layer which is nearest the connective tissue. The claim to identify every epithelial cell found in the urine has never been made, as there will always be transitional types, of which their origin will remain doubtful, yet the majority of epithelial cells will be absolutely characteristic enough in size and shape to admit of accurate differentiation.

It is true that desquamation of epithelia takes place constantly in health, yet this goes on minutely to a limited degree and from the surface only, and without the presence of pus corpuscles.

Normally, the epithelia found in the urine is the flat variety, in small numbers, coming from the bladder, while in the female will be seen flat epithelia from bladder and vagina. The presence of all other epithelia is pathological.

Flat epithelia are irregular in outline, presenting a broad front surface, cuboidal are round or oval and having about the same diameter in all directions, while the columnal are elongated in one direction or rather cylindrical.

All epithelia are granular, with one or more nuclei which may or may not be seen, or else may have dropped out leaving a vacuole. The granulation is either coarse or fine, the flat are finely granular, the columnar are coarsely granular and the cuboidal have a degree of granulation which is intermediate between coarse and fine.

Care must be taken not to mistake epidermal scales for epithelia; these come from the prepuce in the male and from the clitoris and labia in the female, also from the fingers while handling the cover glass and slide. They are highly refractive, with jagged contour and do not contain a nucleus.

The diagnostic point in differentiating epithelia is absolutely size. All epithelia change to a certain degree in the urine, due to the inhibition of the watery constituent of the urine. This change affects all epithelia alike, but somewhat more pronounced in urines of very low specific gravity.

Epithelia from the uriniferous tubules of the kidney are the most important of the entire urinary tract; we have the habit of calling them "small round epithelial cells" and not for one moment considering they have any significance whatsoever, but their presence is of the most profound significance, even with the absence of casts; for it is entirely wrong to suppose that in every case of nephritis the presence of true tube casts is necessary for a diagnosis.

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*Read in the Genito-Urinary Symposium, before the Mississippi Valley Medical Association, Chicago, Ill., Oct. 22-24 1912.

All cuboidal and columnar epithelia may contain a varying number of secondarily developed, glistening fat-granules and globules, similar to those seen in the pus corpuscles—this indicates chronicity. Also, there is another change occurring in epithelia, when they are seen to contain two, four or five nuclei, called endogenous pus corpuscles, or endogenous new formations,—this state of epithelia is indicative of prolonged irritation by pressure of tumor or other formation, or some process in the immediate locality.

Connective tissue which underlies the epithelial lining of the entire uro-genital tract, and which we may term "bed-rock," is only seen in the urine associated with the deeper seated inflammatory processes.

Connective tissue shreds are seen as wavy, moderately refractive fibres, composing small bundles, varying in size, from those so small that they can scarcely be detected with a magnifying power of 450 diameters, to those so large, as to cover one-half of the entire field. At times these shreds may be granular, or contain formations resembling nuclei, which are known as *connective tissue corpuscles.*

In an ulcerative process, connective tissue shreds are broad and numerous; while in suppurative or absces formation, these connective-tissue shreds are present in large numbers, varying considerably in size, with pus corpuscles in abundance.

The presence of connective-tissue shreds is absolutely essential for the diagnosis of papilloma, sarcoma, and cancer.

In papilloma the shreds are very large, with branches assuming the shape of coils or knobs —called protoplasmic out-growth of connective tissue, being coarsely granular and containing numerous inflammatory corpuscles; and there are also present regular connective tissue shreds in varying amount.

Sarcoma. In this process we find the sarcoma corpuscles which are seen as groups of glistening, coarsely granular corpuscles—non-nucleated, at times almost homogenous—smaller than the pus corpuscles and larger than the red blood corpuscles.

The connective tissue shreds are large and frequently contain inflammatory corpuscles.

Cancer. In cancer of the bladder, especially the villous type, the connective tissue shreds are very large and irregular, forming the cauliflower excrescences and are seen to contain numerous inflammatory corpuscles.

Shreds may contain cancer epithelia or "cancer nests."

Calculi. Whenever there is a stone present in the urinary tract it is accompanied by more or less inflammation, or hemorrhage.

Such concretions are formed in the kidney, pelvis of kidney or bladder. Uric acid compose about 75 per cent of all calculi, the next in frequency are the calcium oxalate, while phosphatic stones are less frequent and more commonly found in the bladder.

There is a certain form of uric acid found in the urine that is indicative of stone. This peculiar uric acid formation is not the lozenger crystal, nor the comb or brush variety; but it is a rosette formation consisting of needles, radiating from center to periphery, also variously sized spicules and needles, stellate masses and irregular plates.

When irregular amorphous masses are present, with peculiar refraction, together with the octahedral formations, we may suspect the composition to be of calcium oxalate.

The above findings linked together with the features of an ulceration lead to the diagnosis of stone.

The writer desires to submit the following cases, as conclusive proof of the above claims, and in each instance the diagnosis being made by urinary findings.

CASE I.

Mrs. H. Referred by Dr. T. H. Kinnaird. Urinary findings were as follows:

Crystalline and Amorphous Sediment.—Crystals of ammonio-magnesium phosphates (complete and incomplete) fairly abundant.

Red blood corpuscles—scanty.

Pus corpuscles—moderate.

Epithelia from bladder—upper layer—scanty; middle layer—abundant, (fatty); —moderate.

Vagina—middle layer—scanty; upper layer —moderate; deep layer—moderate (fatty).

Connective tissue shreds—broad and abundant.

Other features—Free fat granules and globules. Connective tissue shreds surrounded by zooglea masses. Bacteria and cocci.

Examination for tubercle bacilli—negative.

Diagnosis—Mild catarrhal vaginitis, with chronic ulcerative cystitis. "Wheeler."

Cystoscopy revealed an intense catarrhal cystitis with a solitary ulcer about the size of a dime towards the posterior border of the trigone.

Bladder capacity four ounces. General anaesthesia.

CASE II.

Mrs. V. Referred by Dr. J. W. Scott. "Haematuria with intense bladder symptoms existing ten months."

Urinary findings were as follows:

Crystalline and amorphous sediment.—Concretions of ammonio, magnesium, and calcium phosphates.

Red blood corpuscles—very abundant.

Pus corpuscles—moderate.

Epithelia from Convoluted tubules of kidney—scanty; pelvis of kidney and ureter—moderate (fatty); bladder—upper layers—moderate; middle layers—abundant. (fatty).

Some with endogenous new formations.

Deep layers—moderate. (fatty).

Vagina—upper layers—moderate.

Connective tissue shreds—abundant. Some rather broad and some very large.

Other features—Zooglea masses, free fat granules and globules, micro-organisms.

Diagnosis—Chronic ulcerative cystitis. Chronic catarrhal uretero-pyelitis with hyperaemia of kidney. Haemorrhage of vesical origin. "Wheeler."

Remarks. The cause of such pronounced vesical irritation was very puzzling, from the fact that some of the epithelia from middle layer of the bladder contained endogenous new formations; this secondary change in epithelia is indicative of pressure probably due to some growth in the immediate locality.

The presence of such large shreds of connective tissue pointed to a vesical neoplasm; while the presence of such concretions of mixed phosphates were suspicious of stone.

Cystoscopy: First cystoscopy was done at home of patient without anaesthesia, owing to intense pain the procedure was rapid. A stone about the size of a large hazelnut was discovered within the trigonal area.

Second cystoscopy (under general anaesthesia. This same stone was discovered but posterior to the trigonal area, to the left at the median line. There was an ulcerative trachelo-basal cystitis the anterior, posterior and lateral walls and summit of the bladder were apparently normal.

The direct cystoscope armed with a ureteral bougie was introduced. A thrust at the stone with the ureteral bougie to turn it around and ascertain the size, smashed the phosphatic cap exposing a villous papilloma, attached to the bladder wall about one inch internal to the left ureteral orifice. Trigone ulcerated.

CASE III.

Mrs. S. Referred by Dr. David Barrow.

Urinary findings as follows:

Crystalline and amorphous sediment—crystals and concretions of uric acid gravel.

Red blood corpuscles—few.

Pus corpuscles—abundant (with fat globules).

Epithelia from convoluted tubules of kidney—moderate. Straight collecting tubules of kidney—few. Pelvis of kidney—abundant. (fatty). Bladder—upper and middle layers—few. Connective tissue shreds—abundant.

Other features—putrefactive micro-organisms.

Diagnosis: Intense chronic pyelo-nephritis, with areas of suppuration probably due to concretions—a catarrhal cystitis. "Louis Heitzmann."

Before a nephrectomy was done the surgeon requested a double catheterization with comparative analysis.

Cystoscopy revealed a somewhat congested bladder wall. Right ureteric os was pouting, with irregular puckered outline as described by Fenwick denoting past stage of severe pyelitis.

Left ureteral os appeared slightly congested.

Both ureters were catheterized.

The result of the comparative analysis showed similar condition in both kidneys, but the process being far more advanced in the right.

Surgeon declined to operate as left kidney was involved and not capable of carrying on renal function.

In a few weeks patient died of general sepsis. At the autopsy both kidneys were found greatly enlarged and nodular. Pelvis very capacious. In the calyces were multiple abscesses filled with stones.

CASE IV.

Mr. B., age 50. Referred by Dr. W. O. Bullock.

Urinary findings as follows:

Crystalline and amorphous sediment—crystals of triple phosphates, moderate.

Red blood corpuscles—few to moderate.

Pus corpuscles—with fat globules, moderate.

Epithelia from convoluted tubules of the kidney—few to moderate.

Straight collecting tubules of the kidney—few.

Bladder—from upper, middle and deeper layers, moderate.

Prostate and ducts moderate.

Tube casts—none.

Pseudo casts—bacterial casts—moderate.

Connective tissue shreds—moderate, some large and irregular.

Mucus—moderate.

Other features—irregular, coarsely granular epithelia.

Diagnosis. Chronic ulcerated cystitis, due to tumor, probably villous cancer, chronic prostatitis and interstitial nephritis. "Louis Heitzmann."

Patient gave a history typical of papilloma.

Cystoscopy. Large infiltrating or sessile carcinoma (right side of bladder, involving one-half of trigone). Inoperable. Died two weeks later.

CASE V.

Mr. W., 62. Referred by Drs. Kinnaird and Barkley.

Bladder irritation two years. Suddenly a profuse haematuria, with complete bladder block due to clotting. All urethral instruments arrested at vesical orifice. Under general anaesthesia bladder was finally entered with No. 10F shotted bougie, following rapidly with 14 ,18 and 24 F—Kollmann post dilator introduced and dilated to 45 F., bladder relieved of clots and 26 F soft rubber catheter anchored; hourly instillations of an ounce of olive oil.

Cystoscopy two weeks later under general anaesthesia. Bladder capacity less than 150 c.c., mucosa highly inflamed, an ulceration about the size of a dollar was seen on right side of bladder, partly within the trignal area and including the right ureteral orifice. Considering age 62, with onset of such sudden vicious haemorrhage, I was suspicious of malignancy. The prostate was of the small fibrous type, with marked contracture of the vesical neck.

Urine, with clinical history and cystoscopic findings, noting my strong suspicions of malignancy, was forwarded to Dr. Heitzmann.

Urinary findings as follows:

Crystalline and amorphous sediment,—crystals of triple phosphates, fairly abundant.

Red blood corpuscles: few to moderate.

Pus corpuscles: fairly abundant, containing fat globules.

Epithelia: Convoluted tubules of kidney—moderate,

Straight collecting tubules of kidney—few.

Pelvis of kidney—few to moderate.

Ureter—few to moderate.

Bladder—from upper and middle layers, moderate and deepest layer, few.

Tube casts—none.

Pseudo-casts—cylindroids and bacterial casts, moderate.

Connective tissue shreds—few.

Mucus—moderate.

Diagnosis: Chronic ulcerative cystitis, with catarrhal pyelo-nephritis.

Remarks: It is impossible to diagnose the presence of a tumor from this specimen. "Heitzmann."

Just as to the pathology in this case, I was not certain, so advised patient to seek some one else as to their opinion.

One month later Dr. Judd, of Rochester, Minn., opened bladder supra-pubically, this same ulceration as noted during my cystoscopy was seen on inspection of interior of bladder, a section of this ulcerated area was taken for examination, and the pathologists report was negative. The ultimate outcome of the operation being a supra-pubic prostatectomy.

NOTE: *The history furnished with this specimen of urine, including cystoscopic findings, had no influence on the urinary diagnosis.*

CASE VI.

Major D., age 73. Referred by Dr. David Barrow. Intermittent haematuria six months.

Urinary findings as follows:

Crystalline and amorphous sediments—crystals of triple and stellate simple phosphates and globules of ammonium urate, moderate.

Red blood corpuscles—very abundant, many disintegrated.

Pus corpuscles—with fat globules, few.

Epithelia from convoluted tubules of kidney—few.

Pelvis and kidney and ureter—in small numbers.

Bladder—upper, middle and deepest layers, few.

Prostate and ducts—few.

Tube-casts—hyaline, very few.

Connective tissue shreds—irregular protoplasmic shreds, moderate.

Microorganisms—putrefactive.

Diagnosis: Haemorrhage from bladder, or prostate, probably due to tumor formation (papilloma or villous cancer), chronic prostatitis, with interstitial nephritis.

Remarks: This specimen is unsatisfactory, on account ofthe disintegration of the blood, which renders all other features indistinct. "Louis Heitzmann."

I quote a paragraph from his letter which accompanied the report "I wish Major D's urine had not become so decomposed; this made the examination a very long and rather unsatisfactory one; nevertheless the diagnosis is probably pretty nearly correct." "L. H."

NOTE: The above specimen was voided July 7th and it was eighteen days before it reached the Heitzmann Laboratory (July 25th) as it remained in my office all during this time(containing a few crystals of thymol) before I decided to subject the urinary findings to a rigid microscopical examination; and in the communication which accompanied the specimen, there was no reference relative to clinical history whatsoever.

Clinical History: Patient in apparently good health, free from pain, other than some slight bladder discomfort while expelling clots during his frequent attacks of haematuria within the last six months. He was active and on his feet every day, and did not consult a surgeon until he had passed a fragment of some kind of a growth. The surgeon sent a piece of this specimen to two different pathologists; both reporting the same.

"Papilloma which had undergone carcinomatous change."

Upon the advice of his surgeon, he reluctantly subjected himself to a cystoscopic examination.

Cystoscopy: Residuum two ounces; bladder capacity, comfortable with eight ounces; there was moderate bulging of the lateral lobes of the probate; some trabeculation, with evidence of a low type of chronic catarrhal cystitis; the ureteral orifices showing some slight rigidity. About one inch from the outer margin of the right ureteral orifice was seen a growth resembling a large raspberry, showing necrotic areas. It was apparently closely attached to the bladder wall, evidently infiltrating, with a small area of basal induration.

The following cases are from the service of Professor James Israel, Judisches Krankenhaus, Berlin, which were diagnosed from the urinary sediment, by Dr. George A. Wyeth of New York; (a Heitzmann student) without any knowledge of any clinical history and confirmed at operation.

Naturally, in an investigation of this kind, many cases were examined which did not come to operation and the urinary diagnosis could only be vouched for clinically. However, during Dr. Wyeth's stay in Berlin; twelve of the cases thus diagnosed, were confirmed at operation by Professor Israel. (*N. Y. Med. Jour.* Sept. 2, 1911).

CASE VIII.—CASE NO. XXII IN JUDISCHES KRANKHAUS.

Frau S., age 36. Diagnosis made from urinary sediment.

The features found were as follows: The first thing noted in the urine, was the abundant amount of pus corpuscles, some containing fat, associated with a goodly number of red blood corpuscles and connective tissue shreds, all of which was indicative of a chronic suppurative process somewhere. After careful study of many different fields, it was decided that the predominating epithelia were from the convoluted tubules and pelvis of the kidney, evidence of a chronic suppurative process of the kidney. In this case very many uric acid needles and concretions (not the common uric acid crystals) were present. They were seen individually, arranged in groups and forming large stellate masses; which, when found in sufficient numbers, are indicative of stone. Considering the great number of this peculiar uric acid formation, accompanied by slight evidence of mild inflammation of ureter and bladder. Hence the diagnosis: *Pyelitis calculoso* was made. Confirmed by operation January 20, 1911. Nephrectomy.

CASE VIII.

Frau A., private patient, is interesting owing to negative findings. A specimen of a twenty-four-hour urine was sent to the laboratory of the Judisches Krankemhaus, with the following note "Patient suffering from large tumor of kidney, will operate to-morrow. Please demonstrate the microscopical findings of a tumor in the urine."

The microscopical findings were as follows:

Pus corpuscles—few.

Red blood corpuscles—very few.

Epithelia from convoluted tubules—few. some containing fat.

Pelvis—few, some containing fat.

Ureter—moderately numerous, most all containing fat and many with endogenous new formations.

Bladder—upper layer moderate, middle scanty.

Vagina—upper layers, moderate.

Connective tissue shreds—moderate.

Calcium oxalate crystals—few.

Diagnosis: Mild chronic catarrhal pyelonephritis with a mild chronic process of upper ureter. (Chronic ureteritis).

From the fact that the ureteral epithelia predominating, containing fat and many containing endogenous new formations, which is indicative of pressure upon or around ureter within the immediate locality. *Do not believe tumor of kidney present.* Next day patient was operated upon, and a kidney of apparently normal size, with a large sarcoma of the retro-peritoneal glands, which involved ureter, was removed.

IN CONCLUSION.

1. The ordinary methods employed in the study of urine under the microscope (beyond the detection of casts) are faulty and almost worthless.

2. The purpose of this paper is an effort in defense of the Heitzmann School of Microscopical Urinary Diagnosis; and already since the advent of ureteral catheterization many authorities have deemed it wise to modify their opinions.

THE FOOD WE EAT.*

By T. Atchison Frazer, Marion.

Neither body nor brain will work unless well fed, any more than an engine will run without coal; and, the better they are fed, the better work they will do.

The wise king said "every peasant should have a fowl in his pot if he was to enjoy life."

We literally hang on to life with our teeth.

It has been the custom for ages to celebrate all great events with a feast.

Cooking is not a menial service. Put brains into it, and it is equal in dignity to any of the professions, and superior; to most of them feasting excels fasting in wholesomeness as well as popularity. Teach the girl to play the cooking stove as well as the piano. Cooking is the most important accomplishment.

Appetite is the only solid foundation for a good digestion.

Good is as good tastes.

Simply to "poke" things down at mealtime, whether you have any relish for them or not, is almost as bad for the digestion as it is for the enjoyment of the meal.

There is just one kind of good food and that is every kind.

The worst fault that any food can have is that there is not enough of it. My advice is to get a plenty of it while you are getting. After trying all the experiments in the laboratory and all the fancy cooking, we finally reach the conclusion, after all, that there is nothing to eat but food. The only foods that will fulfill the demands of the body are the foods that come fresh from nature's laboratory just as they grow or come to our tables, the kind that mother used to make.

Young children like bread and butter, milk, sweet fruits, eggs, meats and sweets, because their growing bodies need these foods to meet their demands. Children should, as they grow older, be coaxed to try a large variety of foods, but we should bear in mind that the first named foods are their main reliance for fuel for their little furnaces which will properly run their dynamos.

Rutledge Rutherford, Editor of the National Food Magazine, estimates that 250,000 children are killed in the United States each year by eating foods that are poison. He also estimates that 350,000 adults die from the same cause. These people do not die of acute poisoning but most of this number are gradually poisoned, some of them dying in a few months, and some may live for several months. Counting the babies alone, the number exceeds by 60,000 the number killed in the four years of the Civil War. Three million people are made ill annually by eating poisoned foods. Most of these cases become so impoverished from the long continued use of adulterated foods that they fall easy prey to the various contagious or infectious diseases. Boric acid, sulphuric acid, salicylic acid, arsenic, benzoate of sodium, acetic acid, coal tar dyes, and formaldehyde are the chemicals used as preservatives that are responsible for this enormous sick and death rate.

Sleep is a necessity for good digestion. The midnight bell should find you at least three hours in the interior of dreamland.

Do not say that will do for the children. They are entitled to the best that can be had of everything. Children have a natural repugnance for food that is highly seasoned, especially when seasoned with salt, pepper, mustard, horse radish, or the hot burning spices. It is a protection to the child and will make them retain their youth longer if they are fed the things they like best.

The chief office of spices and pungent flavoring is to stimulate a jaded appetite, or to disguise the faded and must flavors of cheap and decaying scraps. The art of cooking is too often wasted in making palatable that which is not fit to eat. Hash is usually made of such scraps as could not be used for any other purpose. Few women would put these same scraps on their tables in their natural forms but when favored with onions, pepper and other condiments, they look very inviting and constitute the proverbial boarding house hash.

The child's delicate taste is the best guide to the foods that his little body demands for fuel to run his little engine. Foods are often forced on children or eaten as a matter of necessity that will upset their digestion and produce a toxic fever that may be the beginning of the end with him. The most effective way to waste food is to compel one to eat that does not want it, or to eat it yourself just to keep it from being wasted. There is no economy in stunting the child to save a few paltry dollars. The best food that can be had is none too good for the growing boy or girl. The human machine that is furnished the best fuel to run its engine is the one that will do the most work. Never buy food because it is cheap. If you want to raise useful men and women feed the children the best food that you can buy. Children will do far better on a small amount of good food than on a large quantity of poor food.

In the adult it is a matter of fuel to run the human engine. A man who works with his muscle demands more of the food that will furnish steam than the man who works with his brain, yet the man who works with his brain demands plenty of good rich diet if he is to do good work, and if he takes the exercise he should take he can use as much fuel as the laborer.

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*Read before the Crittenden County Medical Society.

The mother, as a rule, is underfed. She has the responsibility of preparing or superintending the preparation of the meal, and therefore she will taste the food while it is cooking to see if it is properly seasoned; to see if it is cooking tender; to see if it is good enough for the rest of the family, or for her guests, and by the time it is cooked her appetite is gone. She is anxious to have things to please other people but never takes her own taste into consideration. If she happens to be alone for the day she will eat the scraps. A little cold bread and milk, or anything to save cooking, she feels that it is too much trouble for her to cook for herself; that she can make out on any old thing till the men come home; therefore she is underfed. She does not have the necessary food to keep herself up to the standard in weight; to keep herself up to the standard in strength. She falls an easy prey to some of the nervous diseases which women are heir to, or she is attacked by some of the acute infections and her resisting power is so far below normal that she is an easy victim of whatever disease she may contract.

Poor food and poor cooking are responsible for so many ills of the human body that it would not be proper to go into them at this time; but to be happy and to make others happy we must be well fed. There can be no happiness if the body is not nourished. If hunger is gnawing at our nerves and the cells are crying for the fuel that is necessary to build us up and give us the energy to do our work we can not be happy.

Good food, well cooked, will make our lives a bubbling, rippling stream of happiness. It will produce the smile that "won't come off." The smile that will chase the skeleton from the feast of painted landscapes on the brain of man. The smile that will mingle souls in sweet union as nothing else will do. Eat plenty of good food and you will see the sunbeams chasing each other over billowy fields, the dews of night, the wealth of summer and autumns rich content, all gilded with imprisoned light. You will hear the songs of men and maidens fair, mingled with the laughter of children as they sing the "Harvest Home," and through your very being you will feel the twilight dawn, the dreamy, tawny dusks of many perfect days.

General Anesthesia and the Liver.—Hildebrandt insists that the liver functioning should be systematically tested before giving a general anesthetic, as a previously unsound liver will of course suffer more from the toxic action of the anesthetic.

SALVARSAN, A SPECIFIC, IN THE TREATMENT OF PELLAGRA.*

By B. C. Rose, Bryantsville.

The two-fold purpose of this paper to-night is to emphasize the value of the new preparation of the Arlarsonates brought to our notice by the great Dr. Ehrlich, and its specific virtues in the treatment of pellagra.

Having used salvarsan a number of times in the treatment of syphilis with most excellent results, but with little experience with the preparation and with no more observation of its effect in the treatment of pellagra, I feel free to say that it is a wonder to modern therapeutics and is proving one of the greatest remedies now at our command.

It is fast becoming recommended and used in nearly all diseases where arsenic is indicated because of it being least toxic to the human system.

The Southern practitioners of the U. S. seem to be among the first to make use of it in the treatment of pellagra, and advanced the idea of the disease having its origin from some spirochaete or spirillum which in all probability thrive on maize.

We refer to Dr. E. H. Martin, of Hot Springs, Ark., as being first to emphasize the importance of the use of this drug in pellagra.

Last year, beginning about April, he claims to have treated fifty-two (52) cases with very favorable results. The ones of fifty-two that did not respond to the treatment readily, were all found to have a complication of trouble, such as malaria, tuberculosis, diseases of the kidney, liver, heart, etc.

The disease, when typical, involves the gastro-intestinal, skin and cerebro-spinal system, called the tripod-group.

The gastro-intestinal involvent taking place first; the skin next and the cerebrospinal last.

The cerebro-spinal symptoms are last to appear, the last to disappear and the most difficult to treat.

Before administering salvarsan in these cases there should be taken into consideration the age, stage of the disease, and whatever complications exist.

In all cases, I should think a grain or a grain and a half would be small enough to begin with. The dose being increased or decreased as might be thought proper.

The frequency of the dose should be governed by the disappearance of the general symptoms of the disease. A period of two to six weeks should elapse in order to give the temperature time to disappear, the pulse to return to normal, the appetite to increase, the nerve symptoms to subside, the system to eliminate the arsenic, toxines, endotoxines, etc.

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*Read before the Garrard County Medical Society.

One case I will mention, being as typical, as far advanced with the disease and as near hopeless as I believe could be, was a girl 18 years old. Having developed the disease the symptoms of which could not be traced further back than three years ago, complained then of skin eruption. She was treated at that time with Fowler's solution. She later began vomiting worse and worse. She became constipated until some purgative was necessary at all times. The appetite becoming impaired, the stomach more and more sensitive—she became highly toxic and greatly emaciated. On January 1, 1912, she was compelled to go to bed; by this time she had developed all the symptoms of the disease except diarrhoea. By March the 27th, 1912, she had excited the interest of at least a dozen doctors, or more, visiting the case through curiosity, all of them readily pronounced the disease pellagra, except one or two, who did not make a careful examination or get a correct history of the case.

All recommended arsenic as the treatment in one form or another. After having read Dr. Martin's articles, as mentioned above and knowing that salvarsan has less toxic effects than atoxalsoamin or any other arsenic compound of any medicinal merit worth mentioning in the treatment of pellagra or syphilis, Dr. Montgomery of Bryantsville and I, after gaining permission, administered the initial dose, one and one half grains, March 28th, 1912.

The temperature and pulse being 101 respecitvely we got a reaction of pulse 126, temperature 103 for three days. Then temperature and pulse dropped to normal where they remained for about 15 days. On April the 16th, 21 days after the initial dose, we found her with a temperature of 99 1-2 degrees and pulse 90.

We then, in consultation with Dr. James B. Kinnaird of Lancaster, gave her 3 grains. A slight reaction followed which lasted for two or three days. The temperature and pulse dropped to normal again where they have remained ever since. But for six weeks she complained of intense pain, tympany, and constipation—absolute refusal of nourishment, horrible convulsive seizures—and all the nervous symptoms a person could possibly have in a state of toxaemia, auto-intoxication, arsenic or what not.

She was given hypodermic injections of morphine, hyoscine, cactine, etc., when an absolute necessity, using every effort of restraint along this line possible.

Dr. Amon was called on one occasion, who recommended opium and chloral per rectum, which proved very efficient for a while, but the system becoming so blocked and no elimination scarcely taking place, all opiates were abandoned, since they seemed to bring about no further relief.

The gall bladder becoming so over-distended she vomited almost continuously for four days. After this, she began a complete change for the better. She was put on tonics, stomachics and changes made as thought best.

The appetite began to improve; the convulsions ceased; the nerves seemed more at rest; the muscles relaxed; the tongue began to clear; the tympannitic distention disappearing; the skin clearing, leaving a few marks of the eruption; her strength increasing; the that all the remaining germs are destroyed, if there be any.

This experience, together with Dr. Martin's leads us to believe "606" the specific in pellagra.

Allow us to give thanks to Dr. Smith, of Lancaster, Ky., in assisting in the after treatment since all of us had much to contend with.

Patient weighed 80 pounds before treatment, four months after treatment had gained 47 pounds.

MALARIAL FEVER.*

By Robert T. Hocker, Arlington.

This is an old theme and one of the oldest diseases of which we have any knowledge. At a very early date Rome was one of its hot beds, prevailing there to a fearful extent in the Pontine marshes and thereabout and the swamp lands along the lower Danube. The happy truth that it is unquestionably less prevalent than formerly is a great source of satisfaction to every lover of humanity and without a doubt it is still diminishing. Our authors often refer to their personal experiences.

Is there a good reason why we, notwithstanding we are country doctors, should not be allowed the same privilege. With an experience and observation covering a period of forty-four years, I don't believe we have in this locality exceeding one-third the amount of malarial trouble we had in 1868. It was formerly very prevalent in our New England states, while now it rarely occurs in that locality. In our Southern States where in other years its pernicious cases were not infrequent, there has been a very gratifying decrease both in the number of cases and their gravity. It is less frequent in Continental Europe and the British Isles than it was in other years.

In the community which has been my field of labor for twenty-eight years, I feel quite sure that since about 1885 there has not been near so much of the disease as prior to that time, with a proportionate decrease in its pernicious type.

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*Read before the Carlisle County Medical Society.

As to the etiology: The mosquito theory is, we think, accepted by the profession generally; certainly by our most eminent men. As early as 1848 the North held that both malarial and yellow fevers were caused from the bite of mosquitoes. In 1883 King demonstrated that malaria was transmitted in this way. Later Laveran, Koch, Pfeiffer and Bignami recognized the truth of this theory. Surely this was one of the greatest discoveries of this or any other age. The acquisition of this knowledge came to us at a fearful cost, not only requiring much patient scientific research, but it was settled beyond question by the martrydom of one of the noblest men on earth, Dr. Lazear.

The best way to deal with malaria is to prevent it. Prevention is far preferable to attempts to cure. Marshes containing fresh water near the coast and tainted with salt water or where vegetation is luxurious in marshy places are noted foci for malaria. By drainage and bringing marshy lands into cultivation. In addition to this propagation of mosquitoes should be prevented, by screening barrels containing water, by oiling all ponds with petroleum, thus destroying the larvae, and draining all filthy ones. Every pond in—say three-fourths—of the United States, is a menace to health. When these precautions are taken the trouble ceases in such localities.

Have we grasped the destructive power of these little pests when we fail to prevent their breeding? We should fight them unrelentingly, destroying them in every way possible. Screen the verandas; if possible, keep them out of the home. Failing in this screen the sleeping apartments with wire netting. Fumigation is sometimes necessary.

By sucking the blood of a malarial subject, a single mosquito may infect a great many persons—some say for life. Race has but little influence. In the United States the colored people are slightly less susceptible to the poison than the whites. Sex has no influence under like conditions, both are alike its victims; by reason of greater exposure to the cause, men are far oftener attacked. Some individuals are very susceptible to the poison, while others are immune both from mosquitoes and experimentally.

The period of incubation varies from five to fifteen days. The use of potassium iodide, or bromide, carbolic acid and antipyrin may prolong it. Individually we would prefer quinine, arsenic, capsicum and piperine to all other remedies. Subjects soon become anaemic which is caused by the parasite affecting the blood, destroying the red corpuscles. There is engorgement of the spleen, chiefly during the febrile stage. The liver is also engorged, but not so much as the spleen. The ague cake, which is in evidence later, is so familiar that it scarcely needs a reference.

The diagnosis is usually not difficult. In subjects under the influence of both the malarial and typhoid bacillus we are likely to overlook, at least for a short time, perhaps four or five days, the typhoid infection, thereby losing precious time, which is exceedingly unfortunate for both patient and physician. We ought to be on the alert—it would be exceedingly reprehensible, if not criminal, to act otherwise. If there is not improvement within ten or twelve days in a case that has been skilfully treated we can safely pronounce it typhoid fever. Treatment is so familiar, a passing notice will suffice. Quinine is the specific agent. It is a question of great importance as to the time of administration and the dose given. Our best practitioners differ as to both. No arbitrary rule can be adopted. If the patient is seen from six to nine hours before the expected paroxysm, or even two hours, treatment should be immediately begun. If you have nine hours' time for work, to a middle aged male subject, give five grains every two hours until he has taken twenty grains. When you have less time larger doses at shorter intervals. Three drops of muriatic acid given just after the quinine will hasten its absorption as well as otherwise be of material benefit. Before beginning specific treatment give from 1 1-2 to 3 grains of calomel. Often you can't afford to wait. Begin the quinine at once, calomel later, administer antipyretics, cathartics, diuretics, cholagogues, as indicated. In all cases the paramount indication for treatment is prompt cinchonism, quinine—large doses in solution to which one drop of carbolic acid is added to each dose hypodermically is the remedy in pernicious cases, the only one upon which any hope can be predicated. Later iron, arsenic, strychnine, capsicum, piperine are to be prescribed pro rata.

I am impressed that this paper is not as meritorious as this body has a right to expect from its essayists; but I yield to none in my devotion to medical science, medical men and the Carlisle County Medical Society.

ABORTION.*

By S. M. Hopkins, Gardnersville.

DEFINITION.

Abortion means the expulsion from the uterus of the product of generation before end of fourth month. The product of generation, until the formation of body is apparent, is called the ovum, from this time until the time of quickening it goes by the name of embryo; after this time it goes by the name of foetus. The terms abortion and miscarriage are used interchangeably by some, but most authors use the term miscarriage from fourth to seventh month; after that premature labor is the proper term.

HISTORY.

The history of abortion dates back to the oldest writers Celsus and Hippocrates. Criminal abortion has been practiced in all ages by civilized and savage, but the more civilized a people become, the more abortionists flourish. Greece and Rome, when at the heighth of their glory, were protected by laws which almost openly advocated abortion. China, Japan and many of the islands legalize abortion on the grounds of their overcrowded condition. In India the destruction of a child that has not seen the light of day is a less crime than the dishonor of a woman. In Turkey it is so common that a certain price is paid for abortion and another for infanticide; the law being indulgent to the crime and the price is cheap. In Germany the laws are strict; the penalties severe, yet Casper says, that "Of all the many accused, never a one was condemned, and in no case was the crime proven." Hodge says, "There is no class of criminals who meet with so much sympathy as women guilty of foeticide." In our own country the condition is not much better. Our laws are good enough, but the witnesses being willing victims of the abortionist will not testify against them. Hundreds of unborn children are executed every year on the plea of "We are not able to raise any more children." Several years since I attended a lady in her fourth confinement. When through she said, "This is my last." She has had several abortions since, in one she came near losing her life, but she has made her word good. Where a woman has made up her mind neither the laws of God or man will be heeded by her. In this, like the sin of the Garden of Eden, the woman usually takes the initiative, but there usually is a man in the case, who is guilty as old Adam was in the Garden. Good Christians will argue that as long as there is no movement there is no life, therefore no harm in an abortion. This is a delicate subject for the preachers to handle from the pulpit, so it is left for the physicians to teach the people that criminal abortion is murder.

FREQUENCY.

The frequency of abortions, by different authors is variously stated to be one in ten, to one in four, as compared to labor at full term.

ETIOLOGY.

The causes of abortion are those acting through the father, and those acting through the mother, and those affecting the ovum.

Paternal.—The principal cause acting through the father is syphilis, tuberculosis, alcoholism, extreme youth and extreme old age may act as causative factor.

Maternal.—The various infectious diseases: measles, smallpox, pneumonia, typhoid fever, etc., may cause death of the foetus. Quite recently I had a patient to abort on third day, after taking to her bed with typhoid fever. Syphilis acts as a cause in mother as well as in father. Certain drugs, ergot, aloes, quinine, salicylate of soda, etc, may act as cause. Traumatism in some form is cause in most cases of criminal abortion. A severe blow on abdomen, after third month, may produce it. The use of the catheter is the favorite way. An endometritis, especially in retroversion or retroflexion of uterus is frequent cause. Deep laceration of cervix is also given as a cause.

Causes of Abortion Due to Ovum.—Here syphilis plays its part again, by producing changes in ovum and placenta which leads to death of foetus. Various diseases of decidua and degeneration of placenta bring about abortions by causing death of foetus. Faulty insertion into horn of uterus may give rise to contractions causing abortion. Again, a low insertion of ovum causing placenta previa may lead to abortion. Hemorrhage into chorion and between chorion and decidua, known as "molar pregnancy" is a common cause of death of foetus. It is in these cases that we meet with the so-called "missed abortions," a condition where the product of conception remains in uterus for weeks or months without causing any symptoms. We occasionally have hydatidiform degeneration of chorion resulting in abortion.

SYMPTOMS AND DIAGNOSIS.

The symptoms and diagnosis may very properly be considered under the same heading. It is often very difficult to diagnose an early pregnancy and may require manual examination as well as careful history of case.

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*Read before the Pendleton County Medical Society.

In multipara, especially, there may be other conditions that may have to be excluded. A bloody discharge from the uterus is usually the first symptom of abortion, and if there is cessation of menses together with sense of uneasiness in pelvis the diagnosis is more certain. Under proper treatment the symptoms may disappear and pregnancy go on to full term. If the bleeding continues, the pain in back and over pubes increases, and there is frequent desire to urinate, abortion is likely to follow. Ectopic gestation may be mistaken for abortion. The hemorrhage in ectopic gestation is not so regular or profuse, the pain not so severe and more of a colicky nature, and patient is likely to syncopal attacks when rupture takes place. A flow of blood and uterine contractions may be present with an intra-uterine polyp and simulate abortion, but the history of the case will usually indicate the diagnosis. When a diagnosis of imminent abortion is made, the question arises, is it inevitable. When parts of the product of conception have been expelled or can be felt through the dilated canal it is inevitable.

When called to a given case it will often be a question whether an abortion is complete or not. If the pain and hemorrhage have ceased the abortion may be complete, but if there is occasional bleeding and a patulous os there is likely retained decidua. In case of protracted abortion the woman grows weak and anaemic, has a haggard look and is unable to carry on her usual duties. The acute or chronic cases with retained secundines may take on a septic condition and the fever run high, although there may be a bad form of sepsis with low grade of fever. We may find in these cases in Douglas' cul-de-sac an exudate, or there may be signs of a pelvic peritonitis.

TREATMENT.

Prophylactic. In a case that has suffered repeated abortions a careful investigation should be made. If there should be evidence of syphilis, in patient or husband, proper treatment should be given, uterine displacements should be corrected. If an endometritis exists the uterus should be cureted, or applications of tincture iodine and carbolic acid, equal parts, applied about twice a week, should be used. A lacerated cervix should be repaired.

If an abortion is threatened put the patient to bed, give an opiate. Viburnum prunifolium is good remedy, from one-half to one teaspoonful ever four hours. A retroverted uterus should be put in place. If the abortion is inevitable, and the symptoms not urgent, there is no question in medicine more puzzling than the one, "Shall we operate, or shall we wait?" Some authors recommend active treatment at once, others would wait for an alarming hemorrhage, or sepsis before active interference. In an early abortion if there is evidence that the foetus has passed, should there be little bleeding and no pain or fever we may be justified in waiting further developments. Should there be hemorrhage and no dilatation of cervix it is proper to tampon and wait. It is not necessary to describe the mode of tamponing, but will say, that it is necessary to prepare the patient for this operation as carefully as for a major operation. Upon removing the tampon the membranes may be found in vagina, or at least there will likely be found dilatation of cervix enough to admit the finger, placental forceps or curette. The curette is considered by some as life-saving and by others as life-taking. In the report of one German hospital the curette was used in one per cent. of cases of abortion, and in another it was used in ninety-one per cent. but the statistics failed to state which hospital had the largest per cent. of recoveries.

With the patient prepared as for major operation, proceed to clean out the uterus with finger, failing with the finger, the placental forceps seems to be the safest and best instrument to use, introduced first with blades to the lateral walls, then by changing position a little each application, until the blades are applied to anterior and posterior walls the entire surface is reached. If not satisfied that all is away, the gentle use of tolerably large size, sharp curette is indicated. Next irrigate the uterus with normal salt solution.

SEPTIC ABORTION.

In septic abortions clean out the uterine cavity thoroughly, then if the fever continues, use intra-uterine irrigations of salt solution or one per cent lysol solution two or three times daily.

The Endosteum.—Ssamoylenko made a detailed histological study of the endosteum, the membrane lining the marrow cavity surface of the bones, in twenty-two human beings varying in age from embryonic life to over 80 years. His conclusions are interesting as affecting the much discussed question of bone transplantation. He finds that the endosteum is a connective-tissue formation having the same function as the periosteum, namely, that of bone formation and bone absorption. The endosteum is an entirely different form of tissue from the bone marrow, and in fact forms a connective tissue framework for the latter. The marrow does not share in bone regeneration and cannot exist independently from the endosteum, while the endosteum can live without any connection with the marrow.

HOW I TREAT AN ANTHRAX.

By W. A. Ligon, Louisville.

First I secure crystal carbolic acid, then call for a cup of hot water, saturate a batch of cotton with whisky, in the center of which I make a hole just large enough to encircle the apex, place my hypodermic into the hot water to warm the barrel to prevent the acid from congealing; then place, say 1-2 a teaspoonful of the acid over a lamp to melt the acid; then draw a portion into my syringe, dip the needle into the hot water, but not too hot, I insert the needle through one of the apertures, pushing the point in different directions, gently pressing the acid in to completely fill the sinus to overflowing. The whiskey in the cotton will prevent the acid from burning the skin.

Within a few days the slough will drop out. In this way I cause no pain, no inconvenience. Do this and the whole family will rise up and call you blessed.

Now I don't presume that I am the only one that treats a carbuncle in this way, but I am sure than many do not know the "trick," as one lady called it, whom I had relieved.

EXOPHTHALMIC GOITRE*

By O. W. Brown, Lenoxburg.

It is not the purpose of this paper to elucidate anything new in the discussion of this subject, but simply to emphasize some points that, from our earliest data have been in dispute among the most prominent investigators along this line. Why should the hypersecretion or the hyposecretion of the thyroid gland cause such a train of symptoms in the one instance and directly opposite in the other has long been a mooted question. That the thyroid gland is a very important part of the human economy there can be no doubt, and this seems to be of even greater importance in the female than the male. This is sustained by the overwhelming majority of females that are subjects of disturbed functions of this gland.

Histologically the thyroid gland may be normal in every part of its make-up, and yet be furnishing a secretion that is causing symptoms that are often not explainable. The thyroid gland is present in the very young infant, but does not develop in accordance with many other organs of the body until puberty. Along with the generative organs it becomes very active at this time and continues to play a very important part in many functions of our organism till the menopause is reached in the female, and a similar age is reached by the male. I believe there is a change takes place in the glad at this time that, perhaps, will be known some time to cause many of the symptoms that we know to be associated with what we term the change of life.

We know that this gland has something to do with fat accumulation and hence we see a great many females at this time in life begin to grow fat, or it might be in some instances, the loss of fat. But that it has a part in the deposition and distribution of fat seems very certain. Also in the sexual functions, menstruation, mental activity, blood changes etc.

We see females at this time in life manifest all the symptoms that we usually term hysteria, neurotics or neurasthenics, which prior to this time have never had any such symptoms. We all have to admit that we don't know the cause and just tell the family it is the change of life working on her.

Why should we not attribute some symptoms in hysteria to a disturbance of functions of the thyroid when we know that the removal or interference with its proper function in most all animals will cause a train of symptoms similar to this trouble in the human?

When the very active part that the thyroid takes in the life of the female is recognized, it is not any wonder that thyroid insufficiency so frequently occurs in women. The normal activity of the gland is so often increased at times when it should not be, or again having been so many times normally hypersecreting during the woman's life, and so many times not returning promptly to normal when such hypersecretion is not needed, the gland becomes overworked and finally fails to functionate properly. This. I believe, can account for many of the so-called neurotic women who have at one time an asthma, at another time an urticaria, then an eczema, then a diarrhoea, probably joint pains, inexplainable vomiting, headaches, tachycardia, and etc., any one of these conditions demanding our attention, and when all are present at the same time(as they sometimes are) we realize there is something radically wrong but can't quite conclude just what the seat of trouble is.

I would not dare make these statements as authentic or even have you believe that the thyroid gland is the underlying factor in many unexplainable conditions in the female without some logical basis. We know that when the body or any part of it departs from the normal there is an underlying cause and that it is only presumptive speculation with us till it has been proven in several cases of the same nature clinically, physiologically, pathologically, chemically and bacteriologically, even after having all this evidence at our command and boasting of our vast clinical resources, some man will come along and inform us that we are all wrong and our knowledge a delusion. But granting this, there still remains much evidence that points to the thyroid as a causative factor in conditions that we see in girls about puberty, pregnant women, and women at the climacteric period.

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*Read before the Pendleton County Medical Society.

Exophthalmic goitre, another thyroid disturbance is characterized by these cardinal symptoms: enlargement of the thyroid gland, protruding eye-balls, and frequent pulse.

This definition, according to Tyson and Anders, is not very comprehensive and of course we conclude at once that the disease is not well understood. The etiology Mr. Anders states is much disputed and some very eminent men disclaim it to have any association with thyroid overaction. But clinical evidence, gleaned from the vast majority of clinicians, has proven almost beyond a doubt that it is a thyroid disturbance, but can not explain just what takes place in the gland or what condition is present to bring about the enlargement, the prominent eyeballs and tachycardia.

It would seem that cretinism and myxedema had just as well be ignored as a result of thyroid insufficiency, as to try to say that exophthalmic goitre had no connection with thyroid overaction, for we know that the administration of thyroid in myxedema usually causes a marked improvement and the giving of the same in exophthalmic goitre only aggravates the symptoms. This alone would be pretty conclusive evidence that the two conditions are directly opposite from the point of thyroid activity.

It would appeal to one that the secretions from the thyroid in normal amount might undergo changes in the lymphatics or blood channel and be found to contain a toxine, just as we can have a toxine formed in the alimentary canal from secretions that normally belong there (or what would be more plausable) the thyroid becoming diseased may generate toxines within itself and pour them out into the blood stream, thence to the brain centers, thus explain the cardiac disturbances, muscular twitchings, mental disturbances, and many other symptoms due to irritation of the cerebral centers, as in uremic coma from the urine being loaded with poisons that are taken into the blood stream we have an example of central irritation.

Many toxic conditions produce swellings of different glands of the body and why not term this a toxemia to account for the enlargement of the thyroid? Some cases do not have enlargement of thyroid, neither do some cases of diphtheria cause edema or swelling of the cervical glands, nor does syphilis always cause swelling of the inguinal glands.

Text books don't seem to explain why the protrusion of eyeballs, but I presume it is an exudate into the loose glandular structure that we know to fill the orbital space. and probably an hypertrophy of the glands the same as takes place in the thyroid, since all cases do not have the protruded eyeballs we can readily understand that this swelling and exudation has not taken place in these cases.

The symptoms of exophthalmic goitre have been pretty well covered in the definition since if we have a patient with these three symptoms we can be almost certain of exophthalmic goitre.

Some cases begin by a tachycardia and no other symptoms evident for some time. It would be difficult to determine just what cause to pursue, but sooner or later there will be other symptoms to confirm a diagnosis.

Besides the three prominent symptoms we may have swelling in different parts of the body, mental apathy, or buoyancy, sudden giving way of the legs, sweating, sudden attacks of diarrhoea without pain, finally a state of neurasthenia or nerve exhaustion. There is usually no fever, but rapid breathing is common.

Prognosis of this disease is good as regards life, but most cases run a chronic course and die of some other disease: some of the acute cases are rapidly fatal, due, as believed, to sudden heart failure or dilatation.

The treatment is hygienic, medicinal and operative. The patient must be at perfect rest and free from excitement of all kinds. Rest in bed and perfect quiet will do more for most patients than medicinal measures. But for the rapid heart digitalis would be well indicated it seems and also the bromides for nervousness and wakefulness.

Sodium salicylate has given good results in some cases and so has the dried suprarenal capsule and adrenalin.

Potassium iodide might seem to be indicated in all forms of glandular disturbances, but in this condition I can readily understand why it would be contraindicated. It would only cause a more active condition than previously existed, since it is a stimulant of all glandular structures. Partial removal of the gland has given good results in many cases and seems to be much more favored than the resection of the sympathetic nerve supply to the thyroid.

The serum treatment has given good results also in some cases.

INTESTINAL TOXEMIA OF CHILDHOOD.*

By L. C. Redmon, Lexington.

In considering this subject there was found to be a great diversity of opinion as to the classification of the different intestinal intoxications. It seems to me that they are best considered under two heads, that is,

(1) Functional disorders, in which there are practically no pathological lesions of the stomach or intestines.

(2) Organic disorders, in which there are marked lesions—under functional toxemias we have first: (a) acute dyspepsia, or intestinal indigestion.

In infants indigestion is seldom limited to the stomach, or to the intestines, yet in one case the disturbance of the stomach is slight, and that of the intestines serious, or vice versa: As a rule in these little patients, the intestinal symptoms predominate.

ETIOLOGY.

The cases are essentially those of improper food, overfeeding, the changing from one food to another, also heat, cold, fatigue, or the onset of some of the contagious diseases. Some children are susceptible on account of feeble digestion, a delicate constitution, or previous attacks, and the slightest error in feeding may cause trouble.

PATHOLOGY.

There is no pathological change in the intestine, except possibly a slight catarrhal inflammation.

SYMPTOMS.

In infants if the attack develops suddenly gastric symptoms are present, if gradual they are absent. The symptoms are colicky pains, tympanites, and later diarrhoea. The pain is evidenced by frequent crying out, drawing of the legs upon the abdomen, and great restlessness. In spite of these the child will continue to take its milk. There is generally some rise of temperature, and a slight degree of prostration.

The stools, though small in quantity, are increased some in number, four to twelve per day. They are first yellow, then yellowish green, then grass green, foul, and containing curds.

The diagnosis is made at the appearance of the diarrhoea, and is distinguished from the other forms of intoxication, in that is usually of short duration, and the symptoms are milder, yet in some cases they may become very alarming.

PROGNOSIS.

In a previously healthy child, if the cause is removed, the child will be quite well in four or five days: the worst feature of these cases, is that such attacks predispose to more serious intestinal toxemias. The treatment will be considered with that of summer diarrhoea.

(b) Summer diarrhoea, the second of the functional disturbances is the form which is so prevalent in hot weather; the lesions in the intestines amounting to nothing more than a simple catarrhal inflammation. This form of diarrhoea may follow upon an attack of acute indigestion, and when the infection is prolonged with sufficient intensity, it will in some cases cause marked structural changes in the intestines, thus it stands mid-way between acute indigestion and ileo-colitis.

ETIOLOGY.

Among the causes of summer diarrhoea are those of acute indigestion, coupled with the general factors, which predisposes to all intestinal toxemias, that is, age, surroundings, constitution, food, and the methods of feeding. Probably the most striking feature about these cases, is their prevalence during the hot summer months.

There has been some controversy as to the action of the heat, some formerly looked upon it as a direct one, that the child suffered from a heat stroke, or a thermic fever. There can be but little doubt, however, that the constitutional depression from the extreme heat, does seriously interfere with digestion.

I believe that the effect of the heat is not so much upon the digestion, as upon the food ingested, especially upon milk. It is very hard for many people to get good milk, and keep it good during the summer months. Milk is the most frequently contaminated of all articles of food, and being an excellent culture-media, forms an efficient breeding place for many organisms. The milk thus acts as a means of carrying the organisms to the intestines, as well as the toxins developed by these organisms, before and after ingestion; it is generally believed now that summer diarrhoea is of an infectious origin, and that the infection comes through the food, especially milk.

DIAGNOSIS.

At the onset it is sometimes difficult to differentiate acute indigestion from summer diarrhoea, but as a rule the higher temperature, the prostration, the very frequent offensive green stools, the refusal to take food, and occurring as it does epidemically during the summer months generally outlines the case pretty clearly. It is also difficult to differentiate from ileo-colitis—the onset is generally the same, but the continuance of the high temperature, beyond the third day, with the appearance of blood and mucus in the stools points to serious inflammatory changes in the intestines.

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*Read before the Kentucky Midland Medical Society, April 12, 1913, at Frankfort.

SYMPTOMS.

The attack may begin abruptly, or there may be some days of intestinal derangement. The child is restless, cries much, refuses food, and sleeps but a few minutes at a time, the skin is dry and hot, the temperature rises rapidly to 102° to 103°, sometimes as high as 106°, nausea and vomiting are early symptoms, the vomitus first being food which has been taken hours before, then the mucus and even bile, with much retching, which will continue even after the stomach is empty.

The diarrhoea comes on within the first twenty-four hours, yet sometimes the nausea, vomiting, and diarrhoea comes on simultaneously, and are the first symptoms of alarm to the parent. At first the stools contain fecal matter, with much gas, later they are a thin yellowish fluid, with a very offensive odor, the bowels will move as many as 18 to 30 times in twenty four hours, the stools being of a greenish yellow, or grass green color. The child will either lie in a stupor, with eyes sunken, weak pulse, and extreme relaxation, or there may be great restlessness, even convultions.

TREATMENT.

The treatment of the functional diarrhoea, is best considered under three heads: (1) Dietetic; (2) Medicinal; (3) Hygienic or Preventive:

(1) *Dietetic.* All foods, especially milk must be withheld at least twenty-four hours, water is forced if the patient can retain it. The severe symptoms are seldom seen in breast-fed babies, but if they do occur the breast should be withheld for twenty-four hours, as any other food, and the cause looked into.

After the nausea has ceased, barley water, rice water, or albumin water are given, later the animal broths, and as the symptoms gradually abate, and the stools return to normal, milk can be given in the form of whey, and gradually the usual formula can be resumed, watching the child very closely for signs of a reinfection.

(2) *Medicinal.* At the beginning of the attack, calomel, preferably the English calomel, in powder form, dry on the tongue should be given at once, one grain to a child one year old. If there is not much nausea, castor oil, zi to zii is given, the idea being to remove from the intestines as soon as possible the cause of the infection.

Colon irrigation of normal salt solution, through a catheter, acts well in helping to allay the intestinal irrigation, by flushing out the lower bowels and also as a stimulant, when there has been a great loss of fluid. With the initial purgation, and the dietetic treatment outlined above, no further medicinal treatment should be necessary.

Don't use opium or astringents to check the diarrhoea, which is nature's effort to remove from the intestines that which is disturbing its normal function, but rather aid in the removal, by initial purge, colon irrigation and etc.

(3) *Hygienic or Preventive.* The most important hygienic treatment consists in the proper care of the food the child is to consume, secure the best of milk, certified milk, which has low bacterial count. I am proud to say that we have two dairies in Fayette county producing certified milk, milk whose bacterial count must run below 10,000, one of these dairies will count an average of about 500. Instruct the mother how to take care of this milk, how to take care of the nipples, and how to properly modify the milk for each individual case. It is a good plan to write out your directions and insist on their being carried out to the letter, explain to the mother that intestinal toxemias are preventable, and that any carelessness in the preparation or handling of the child's food may cause serious trouble. The child should practically live out doors, should be taken to a more pleasant climate, but unfortunately the majority of these cases occur in families with which this is impossible, the child should be clothed properly, just enough to keep the body warm and no more, it should wear a flannel abdominal band at all times.

Preventive medicine is the battle cry of the day, and the intestinal toxemias with their high mortality offers a fertile field for lifesaving. The mother must be educated how to live, how to care for her baby, how to clothe and bathe it during the summer months, that fresh air will not hurt it, (it is astounding how many people are afraid of fresh air). She must be educated to the point of knowing when her baby is sick. Cities must be educated as to their responsibility in this infant mortality, the dairyman must be educated, and required to produce clean milk, and the mother aided in procuring this milk, and lastly the doctor must realize how very, very important it is to be able to properly instruct a mother how to care for her baby.

(2) Of the organic toxemias we have ileocolitis or dysentery.

ETIOLOGY.

Ileo-colitis rarely occurs primarily, but is usually secondary to some of the acute forms of intestinal toxemias, it usually occurs during the second year of a child's life, "That dreaded second summer." The cutting of teeth is the cause usually given by the mother. Too liberal a diet, which is allowed at this time of the child's life, and not the cutting of th teeeth, is the real cause.

PATHOLOGY.

This disease affects the colon and the upper part of the ileum. Three grades are usually described, (1) Acute catarrhal; (2) Ulcerative; (3) Pseudo membraneous. These are only diagnosed at autopsy. "The pathological changes are all the way from a violent inflammation, with congested Peyer's patches, to follicular ulcers of the solitary glands, which may involve a large area by coalescing." These ulcers are sometimes deep, penetrating the muscular coat. In the pseudomembraneous, there is a general round cell infiltration with congestion, and the attachment of a false membrane.

SYMPTOMS.

If primary, the ileo-colitis comes on suddenly, with vomiting, with a rise of temperature and acceleration of pulse, the child looks sick, the stools are frequent, may or may not be greenish, contain much mucus. They may contain blood, varying from a few streaks to a large quantity. There is generally much tenesmus.

The child will be restless and may have convulsions, and if the intoxication is severe will gardually pass into stupor. The child will lose weight rapidly, the eyes are sunken, fontanelcs depressed, and the skin wrinkled.

The severe symptoms are usually of short duration, the child growing rapidly worse, and terminates fatally, or the acute symptoms will subside, and the convalescence which is slow will be drawn out over several weeks. Relapses will occur if there is any error in the diet, or chronic ileo-colitis may develop.

PROGNOSIS.

Prognosis depends somewhat on age, and the previous health of the child. The older the child the better the prognosis. Bottle fed babies, as a rule, bear ileo-colitis badly.

TREATMENT.

All food should be withdrawn at once, the stomach and bowels washed out. The initial purge of calomel or oil should be given, bismuth subnitrate in large doses is valuable, stimulants are given as indicated. Opium may be given to quiet the tenesmus, but only in extreme cases should this be resorted to and then as a last resort the outline of treatment for summer diarrhoea should be followed in ileo-colitis.

CHOLERA INFANTUM.

I consider this in conclusion, because I believe it to be in a class of its own. It has erroneously been applied to many forms of gastroenteric disturbances some even considering it just one step beyond summer diarrhoea, in the line of transition from intestinal indigestion to ileo-colitis.

It is generally seen in children under three years of age, is marked by great prostration rapid wasting, with vomiting, watery stools, generally terminating fatally.

ETIOLOGY.

No specific organism has been isolated, but the symptoms are those of extreme intoxication. There is surprisingly little pathological change in the intestines, that is, compared to the severity of the symptoms; the intestines are collapsed, and show a "washed out" appearance with denudation of the superficial epithelium.

SYMPTOMS.

There is a sudden profuse vomiting, at first the stomach contents then mucus, with violent retching. The diarrhoea comes on first fecal in character, then watery, with flakes of mucus and epithelium, (the so-called water stools) soaking through the napkin. The bowel movements are very frequent, have practically no color, but of a musty odor, the child wastes rapidly, the eyes are sunken, the skin is cold and pale, the temperature rises rapidly reaching 103 to 105 or 106°. In some cases the temperature will be subnormal, which makes the prognosis very bad. Pulse is feeble and rapid, respiration shallow and labored, there is extreme thirst, and the water is usually vomited as soon as swallowed.

The picture is one of profound intoxication, with extreme prostration.

PROGNOSIS.

Prognosis is bad in all these cases, the course of the diarrhoea is short, either responding to treatment rapidly or terminating fatally in 24 to 48 hours.

Diagnosis is generally clear as no other form of gastro-intestinal disease presents so vivid a picture of extreme prostration, associated with violent vomiting, profuse diarrhoea, high or subnormal temperature.

TREATMENT.

Withhold all food, cleanse the stomach and bowels, by irrigation and purgatives, reduce temperature by baths. Morphine is positively indicated when the wasting diarrhoea and tenesmus keeps up. Morphine grains 1-100, atrophine 1-500, hypodermic, repeat for effect. Hypodermoclysis to replace the fluid, stimulants as indicated, of which the best and most rapid is camphor in olive oil, or ether, grain x to xx of which give 10 to 20 minimum hypodermically.

No food should be given by mouth till all nausea, vomiting, and diarrhoea have ceased, then barley water, albumin water, or any of the gruels. Later the animal broths may be given; all the time being on the lookout for reinfection.

ABORTION.*

By Fred D. Haston, Arjay.

In casting a retrospective view over my few years experience in the profession, coupled with the forcible lessons taught by noble instructors of many years' service, along the firing line of practical medicine and obstetrics, gleaning therefrom a few of the many points of vital interest, I attempt to offer you a short paper on some part of the subject allotted to me.

Viewing this subject from its various angles from a multitude of causes, a few known and many suspected, to the eventful effects of loss of health, wealth, prosperity and happiness with the scene darkened by clouds of sin and sorrow, we readily arrive at the conclusion that the term "abortion" embraces entirely too much for one mind to grasp at a moment or one paper to cover. I will endeavor, therefore, to present to you a few points on the etiology, treatment and sequelae merely mentioning symptoms and diagnosis in passing.

The word abortion, though subjected to artificial subdivisions of abortions and miscarriages, we will follow the definition as given by Taussig; the previable expulsion of the human ovum during the first twenty-eight weeks of pregnancy. The actual occurrence of abortion is scientifically an abnormality of the pregnant uterus and is a variation of a normal physiologic action but occurring too soon.

In pondering over this subject we are at the beginning desirous to classify the etiological factors as those arising from conditions relative to, 1st, the father; 2nd, the mother; 3rd, the child.

From a social standpoint, the adventures of the young man while "sowing his wild oats," so to speak, prior to his matrimonial career and in some instances during this period, have proven that he "reapeth whatsoever he hath sown." If by his indiscretion he has contracted certain venereal diseases as syphilis and gonorrhea, his iniquities are laid bare when his anxiety for offspring is blighted by the fact that he is a victim of impotence or far more serious, he unconsciously or without forethough infects and causes an innocent betrothed to be not only a sufferer, but deprived of her maternal prospects on account of diseased organs producing such disastrous results that premature expulsion of the uterine contents is inevitable. Debauchery on the part of the husband claims its tool in many instances, doubtless in some cases this may be the sole cause of frequent abortions.

The etiological factors relating to conditions of the mother are many, but we shall confine our lines to a few of the more important, viz: educational, social, emotional and criminal intent.

The educational variety of causes is a class which we encounter that are due to popular ignorance, which neither reports nor treats abortions until after they have brought such evils in their train as may only too frequently be expected to follow neglect.

The woman of the people who must toil from day to day to provide herself and perhaps others with little or no privacy, frequently permits what she "guesses" might have been a "miscarriage" to pass without attention, its disastrous results force her to seek medical aid. While this seems as almost necessary among the poor and needy, yet it is a fact that there are women in comfortable circumstances and no reason for lack of intelligence who are just as equally procrastinating or indifferent of the dangers that await them by not consulting aid ere alarming symptoms arise.

Socially, there are a few who have become so wrapped in their pleasant passtime that the idea of bearing children and the parental care for them is a perfect horror, consequently if perchance they become pregnant some means are put in force to bring their "courses" around.

Premature expulsion of the ovum may arise from various emotional factors as fright, grief, joy or nervous disturbances such as chorea, hysteria, etc., also from disturbed metabolism as in eclampsia.

Last but not least, the criminal variety of causes confront us with occasionally a knowledge of what has excited the condition, but in the majority of instances the physician only sees the results and suspects the cause. Certain drugs are to be found in the family medicine chest such as quinine, turpentine, oil of cedar and oil of pennyroyal that are resorted to; some get wise to using certain mechanical methods as a male catheter stiffened with a wire and inserted into the uterus, puncturing the membranes, also there are other methods too numerous to mention here. Aside from the above named causes certain deviations of pelvic organs may be the result of abortions, such as retroflection or prolapsus.

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*Read before the Bell County Medical Society.

The etiological factors relative to the child may be due to a dead foetus, multiple pregnancy, hydramnios, tumors and others have been reported, but not worthy to mention here.

The clinical phenomena are chiefly those of pain, hemorrhage and discharge of a lochial character containing small portions of decidual membrane.

The diagnostic features in many instances are disguised yet if a history of the cessation of menses associated with the other symptoms of early pregnancy and the presence of a sudden return of flow with pain referred to the lower abdominal region or lower portion of the back, together with what can be elicited by examination usually gives us a good conception of what is taking place.

The treatment of abortion will differ much according as we may design to prevent or on the other hand, from conditions presenting such characteristic symptoms that a hastened delivery must be done. Thus the treatment readily resolves into that for threatened abortion, the expectant plan and the active or rational treatment.

To prevent a threatened abortion there are two main principles which must be observed, viz.: perfect rest in bed in a dark room away from company or noise and the administration of drugs that will diminish nervous sensibility and weaken muscular action. Opium in the form of morphia by hypodermic method or rectal suppositories, chloral and bromide of potassium by the mouth are remedies usually given; in my experience the vibernum compounds have produced happy results, first using an opiate to quiet nervousness and muscular action.

The expectant plan though contrary to rational and true effective treatment is often allowed not from the physician's desire but on account of the patient's dissention to having instruments used or to be placed under the influence of an anaesthetic.

Surrendering the hope of preventing an abortion, under the expectant plan we now administer drugs and methods to stimulate muscular action such as ergot or pituitrin and assist the expulsion by further dilatation of the cervix and if possible deliver the entire uterine contents all intact under proper asepsis, and prevent after hemorrhage by mechanical pressure and remedies to further stimulate muscular activity. It goes without saying that the physician should be absolutely sure that the uterus is thoroughly clear of all the foetal remains and that the possibility of any after hemorrhage is under control, also that the patient is resting comfortably in a perfectly clean bed before leaving her.

Unfortunately it happens many times when the environment is such that a change of bed clothing as well as the patient's clothing cannot be had, then it is that necessity is the mother of invention, and we seek to prevent infection by measures at our hands or in our obstetric bag and trust in Nature's wonderful aid for a recovery.

The active or rational treatment is *the treatment* for inevitable abortion and should be done in all cases when not too seriously objected to, since this is the only sure method of knowing that your work will be effective. In performing this operation due caution must be exercised; first, with reference to asepsis; second, the manner in which the curette is used and, third, due regard to the dangers of hemorrhage. All instruments should be sterilized, the genitalia and vagina rendered as aseptic as possible, the surgeon's hands thoroughly cleansed and rubber gloves, a hot antiseptic solution prepared for irrigation and the patient brought across the bed with feet placed in stirrups or on chairs after being anesthetized.

Having all things ready, the speculum is introduced and cervix brought down with vulsellum forceps, the cervix dilated by use of fingers or dilator, an irrigating curette is connected with the irregular tube, the curette introduced and a series of to and fro motions made in order to break away the greater pieces of embryonic material, then the curette is made to pass around the entire interior surface of the uterus so as to be sure to clean away any remaining attached portions of secundines. After removing the curette, mechanical pressure may be used to control hemorrhage or a hypodermic of ergot given and patient returned to bed with warm blankets about her.

The sequelae occurring after repeated abortions are without question, not only the most difficult for the physician to successfully handle, but are eventually the most disparaging conditions that can befall his female clientel. Many of you, doubtless, have pictured in your minds patients who have caused you no little amount of worry to determine just what would be the best course to pursue, since they have taxed your ability time and again with metrorrhagia, menorrhagia, dismenorrhea, pelvic congestion, tubal or ovarian troubles, hysterical manifestations and many other aches and pains which are all traceable to habitual or frequent abortions.

I shall not attempt therefore to outline any definite manner of disposing with these conditions, as I regard that as wholly in the hands of the physician in charge to cope with these complexities the very best his experience, wit and patience will afford.

ASTHMA.*

By J. ERNEST FOX, Marion.

Asthma is a term which has been generally applied to various conditions associated with dyspnea. Thus, we speak of cardiac, renal, gastric, and thymic asthma. The term "asthma" should be employed only in connection with bronchial asthma, which may be defined as a vasomotor turgescence of the bronchial mucosa, although the causes of the disease are many. We may consider asthma a neurosis marked by more or less severe paroxysmal dyspnea, with wheezing, cough, and a sense of constriction, due to spasmodic contraction of the bronchi. In the typical form the premonitory symptoms—such as uneasiness about the chest, pallor, depression, or a feeling of exultation due to unusual good health—warn the patient that an attack is impending. Suddenly, in the early morning hours in the majority of cases, great constriction of the chest and more or less marked suffocation, referred to the sternal region, are experienced. The dyspnea in bad cases almost reaches the stage of apnea; the respiration is wheezing in the milder cases, but in others it is scarcely audible. The suffering in such cases is intense; the patient assumes the various positions calculated to assist the respiration, there is a prominence of the eyeballs, distension of the superficial vessels of the neck as they aid in the effort for air, blueness of the lips; the skin is clammy and covered with sweat. The number of respirations per minute is usually reduced and the expirations are very much prolonged. Owing to the tonic contraction of the smaller bronchi, the air drawn in the alveoli escapes imperfectly, resulting in the expiratory dyspnea, the emphysematous chest, and the lowered position of the diaphragm.

The cardiac and hepatic dullness outline becomes narrow or suppressed by the overlying inflated lung. Auscultation reveals sibilous rhonci of varying pitch and intensity followed by the rhythm of the respiration. Mucous rales are present, absent, coarse, or fine according to the nature of the secretions present. The pulse is usually slow and weak, and the temperature normal in most cases but may be subnormal unless a catarrhal bronchitis is present when the temperature is above normal. The sputum usually contains Charcot-Leyden crystals and the Cushman spirals. These are not pathognomonic of asthma, being also present in diseases characterized by exudative inflammation of the bronchioles.

The indications for treatment are (1) to cut short the paroxysm, and (2) to prevent the recurrence of subsequent attacks.

(1) The patient is generally first seen in the midst of an acute attack and needs prompt and effectual help. For this we can rely on adrenalin chloride, a subcutaneous injection of 10 minims 1-1000 solution in the upper arm gives relief in three to fifteen minutes. The by-effects, palpitation, slight chill, and tremor with a slight rise in blood pressure pass off in a few minutes and the patient drops asleep. It has never failed in my experience and only a few cases of failure are on record. Sometimes the attack recurs a few hours later and the injection can be repeated without fear. There is no cumulative action. The painting of the mucous membrane of the nose with a 1-1000 adrenalin chloride solution arrests the attack in a few minutes or we may use it in an ointment introduced in the nostrils. Ephraim suggests the use of a endobronchial spray in order to bring the drug to bear directly upon the affected membrane. The method is drastic and not without danger and I have never used it, as we have simpler and better methods. We may, also, use it as an inhalant.

Januschke and Pollak, in their experiments found that adrenalin acts as a bronchodilator in relieving bronchomuscular spasm, and Ephraim, by means of direct bronchoscopic observations was able to determine that, besides its exsanguinating action, it has a specific influence in relieving the swelling of the bronchial membranes. Finally, it causes fluidization and easy expectoration of the secretions. In fact, adrenalin acts on all the three pathological conditions to which asthma is supposed to be due—bronchomuscular spasm, swelling of bronchial membranes, and the exudation of a tough mucous secretion.

The patient should be given 5 grains of calomel with soda and followed with a saline cathartic the next morning. The mercury often has the effect of ameliorating the attack in the course of some hours. It may be repeated in 24 hours if the patient is not improved. In chronic cases atrophin is one of our best remedies and should be given by subcutaneous injection of not more than 1-64 grain. Atropin is a constituent of the proprietary asthma remedies on the market. Where it is successful, its effect is probably to be attributed to antispasmodic influence on the terminal nerve endings, causing a relaxation of the contracted musculature of the bronchi. In a relatively few cases nitroglycerine, by hypodermic, gives relief. Morphine gives prompt relief but should not be used as we should beware of narcotics.

Asthma is one of the most dangerous drug addition breeders. The nervous system is below par to start with and they have little will power to resist the attraction of opiates. The distress of the paroxysm is so great, the relief by morphine so complete and so sweet, and the occasion for the use of the hypodermic arises so often that it is almost certain that we shall create a habit. Morphine, therefore, should be a last resort.

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*Read before the Crittenden County Medical Society.

Some patients have obtained scant relief from smoking cigarettes of stramonium leaves or burning and inhaling the fumes of a powder consisting of pulverized belladonna, stramonium, and hyoscyamous leaves with some potassium nitrate.

Another remedy highly recommended by some for this disease is euphorbia pillulifera, the fluid extract of which may be given in the dose of 1-2 to 1 dram one to three times daily. I find the following elixir as suggested by H. A. Hare very useful in asthma. Each dram contains: sodium iodide gr. ij; potassium iodide gr. ij; fluid extract euphorbia pillulifera minims iij; nitroglycerine gr. 1-200; tincture lobelia minims ij. Sig.—One or two teaspoonfuls three or four times daily.

(2) For the constitutional treatment Oettinger depends upon sodium iodate 4 or 5 grains given at intervals of 4 to 6 hours. Some appropriate nourishment is given at the same time. Caffeine citrate one grain may be added to each capsule. He considers sodium iodate a specific for the paroxysm of uncomplicated spasmodic asthma. It should not be given to tubercular patients.

The curative treatment of asthma to a very large extent rests upon the use of iodide of potassium, and the careful regulation of diet and bowels, particularly if the trouble seems to be dependent upon indigestion.

In protracted cases of old asthmatics, associated with chronic bronchitis the emulsion of cod liver oil with creosote carbonate is an excellent tonic. For children I use the syrup iodide of iron as a tonic and preventative.

In order to prevent subsequent attacks: During the interval the physician must ascertain whether any of the numerous causes, (bronchitis, gastric disorders, dust, enamations from plants) are discoverable; and if so, efforts to remove them should be instituted. A methodical interrogation of the various organs of the body and their function must be carried out, and the therapeutic or hygienic indications presented by them, if any, must be met judiciously.

The nasal passages should be examined, and any causal conditions found therein promptly removed. Abbott found in all his forty-four cases of bronchial asthma there was more or less hypertrophied condition of the mucous membrane over or near the middle turbinate body and in all but two cases the removal or lessening of the hypertrophied condition caused a disappearance or improvement, in a very short time of the asthma.

If the affection be a pure neurosis or due to bronchitis, a suitable climate often may be found in which the patient will enjoy complete immunity from asthma for a period varying from months to years.

Diet, during attacks: Broths every two to four hours. In interval between attacks: Enough plain food to satisfy hunger and no more. Soups, clear of fat; fresh fish; raw oysters; tender and lean meat; all vegetables except onions, cabbage, cucumbers; potatoes, beans, and peas only sparingly; only well baked or toasted bread; rice, cereals, and eggs in moderation; no raw fruits; pastry, sweets, and any article found by experience to disagree to be avoided.

VOLVULUS.*

By S. P. Oldham, Sorgho.

Volvulus may be defined as an obstruction of the bowel caused by a rotation or twisting of the intestines about their axis or a rotation of the bowel about its mesentery, or an intertwining or knotting of two intestinal loops with their mesenteries. It is most likely to occur anywhere along the colon when the gut is very long or has considerable mobility but is encountered more frequently in the region of the sigmoid flexor than elsewhere. It is an omega shape loop very mobile with its extremity not more than three inches apart and fixed. Hence this pendulous loop with its fixed pedicle is anatomically predisposed to become twisted. Now, this condition of affairs naturally existing and exaggerated by chronic constipation until the sigmoid loop is elongated two or three times its normal length and heavy with accumulated fecal matter one can plainly imagine the mechanism of volvulus. Of course chronic constipation is the chief cause, as the weight of the fecal matter produces displacement, distorts and elongates the mesentery. Inflammation of the mesentery is sometimes the cause, also gall-stones by producing colic or spasms. Among the accessory causes there might be mentioned leanness, the absence of fat in the mesentery, and hence lessened intra abdominal pressure, also trauma, jumping, lifting, sudden diarrhoea or sometimes a very large enema. Volvulus is more common in older than in young subjects, generally in those over forty years of age, though frequently it is seen at thirty. It is seen more often in men than in women. Kemp places the proportion as high as three or four men to one woman. Volvulus is characterized by its acuteness and rapid course. It is more rapid than any other form except, possibly, internal strangulation of the intestines. Pain is sudden and violent and never absent and sometimes localized in the lower left quadrant, it may remit but never a complete intermission. Vomiting is, as a rule, violent, profuse and continuous, and is an early symptom though occasionally less frequent.

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*Read before the Daviess County Medical Society.

In sigmoid volvulus fecal vomiting is a comparatively rare complication; both for feces and flatus occur as a rule from the beginning of the shock. Tenesmus may be present in volvulus of the sigmoid though not as frequent as intersussception and in rare instances there is a passage of a small amount of blood. Tympanites is an important symptom. The left lower portion of the abdomen protrudes, is tense, and elastic feeling, like a rubber ball; percussion is tympanitic and of metalic sound and sometimes dullness if there is much oedema. Sometimes there is an S-shaped protrusion of the abdomen, most prominent in the upper left and lower right quadrant. General tympanites developes rapidly next in rapidity to peritonitis but in the latter the abdomen is very tender while in the former it is only slightly so; and within forty-eight hours the abdomen may be balloon-shaped.

Anatomically there is meteorism. The walls of the distended loops are thickened, rigid, edematous and dark red. The peritoneal coat is often torn as is the muscular. Hemorrhages are seen in the intestinal wall, blood, gas, mucus and feces lie in the loop. The course of volvulus is always acute, the patient may die in from six to twelve hours, often in two or three days, but the average course as stated by Kemp is about a week; they die of collapse, exhaustion, peritonitis or from paralysis of the heart due from pressure of tympanitis, and unless an operation is performed the cases as a rule are fatal, especially those from complete rotation.

Mrs. J. M., age 44 years, mother of eight children never having aborted, family history good, was called to see her on January 2nd, found her in labor with normal presentation and within a few hours of comparatively easy labor was delivered of a well-developed child. Mother and child both doing well. Saw her again January 5th, pulse normal, temperature normal, "feeling fine" was the manner in which she expressed herself, bowels having moved the day before from oil. January 6th, began suffering intensely in the lower abdominal region, so intense was the pain she was compelled to have relief. In emergency Dr. Tyler saw her about 1 A. M., and found her in a condition as above stated. Pain came on after considerable straining at stool; about two hours before the doctor's visit to her. Upon observation found temperature 98, pulse 90 with pain and tenderness over the uterus. By vaginal examination found cervix down on the pelvic floor with body antiflexed. By pushing upward on the cervix and body of the uterus pain was relieved immediately. Left morphine to relieve if needed but was called back in a few hours and found her suffering as on previous visit; pain was immediately relieved by lifting the uterus as before. Introduced a small lamb's wool tampon. I saw the patient with Dr. Tyler on the following morning and found her as above stated. Dr. Tyler saw the patient again on January 7th, found her doing fairly well, having suffered some pain but was relieved by opiates. January 8th tampon was removed and replaced by another, patient suffering some but was made comfortable by opiates. Gave cathartic as bowel had not moved for two days. January 9th, removed tampon and gave an enema, patient passed flatus and small amount of fecal matter, ordered enema repeated during the day but family failed to obey instructions. January 10th, saw patient at 9 A. M., temperature and pulse normal. Suffering some but not severe, some distention of the bowel and slightly tender; repeated enema two or three times with no result and ordered to be repeated later in the day. Was called again at 9:30 P. M., of same day and found patient with rapid, almost imperceptible pulse, subnormal temperature and markedly distended abdomen, very tender, sweating profusely and vomiting fecal matter and in the course of a few hours passed into the great beyond.

In viewing the treatment from a curative standpoint volvulus is a strictly surgical disease. However, much may be done to relieve patient when the operative procedure is denied. The diet, of course, should be liquid, as bulky foods cause the feces to become dry and hard. Water and vegetable oil should be given often and in liberal quantities, with the object of softening evacuation and lubricating the intestines. Oftentimes much relief may be had from high and copious enemas of hot water and oil together with hot fomentation to the abdomen. Massage and mechanical vibration are spoken of but I think they are of little or no value.

New Obstetric Rubber Dilating Bag.—Good's bag is mushroom-shaped and has two separate compartments, one for cervical pressure and one for pressure on the lower uterine segment. The appearance of but one bag. Each compartment compartments are so joined that they give the is filled separately.

EAR ACHE, CAUSE AND TREATMENT.*

By WILLIAM J. THOMASSON, Newport.

Ear ache is nature's cry for help and if aid is given early all is well. But nowhere in medicine will procrastination prove as serious as in middle ear complications.

It is usually the young child that suffers with ear ache and the reasons for this are, First, the anatomical structure of the Eustachian tube. This tube in the child being shorter and broader than that of the adult readily permits bacteria to enter the middle ear cavity.

Second. The diseased lymphoid tissue within the throat and post-nasal space act as a culture media for the growth of bacteria. Or the abnormal secretions from the adenoid tissue may block the entrance to the Eustachian tube. Or a diseased submerged tonsil will interfere with the drainage and ventilation of the middle ear by direct pressure on the Eustachian tube.

Third. It is in early childhood that we see the acute infectious diseases and it is in these conditions that most of the middle ear complications are found.

You will notice that the diseased lymphoid tissue is classed as a more frequent cause than that of the acute infectious diseases. The text books tell you that it is the infectious diseases more than any other condition in early childhood that cause middle ear complications.

It is a fact that after measles and scarlet fever many ear complications are seen, but it is also a fact that these same individuals, if examined closely, will be found to have diseased tonsils and adenoids.

I want to say to you that none of the acute infectious diseases would have the high mortality, nor would the middle ear complications be so great if more attention were paid to the diseased lymphoid tissue within the oral cavity known as Waldeyer's Ring.

It is not the hypertrophied tonsil, that is dangerous to the individual. But the buried or submerged type that not only causes the middle ear complications by blocking the Eustachian tube by direct pressure, but it is this type of tonsil that becomes the hot bed for the growth of bacteria and acts as the portal of entrance for many of the bacteria that invade the body through the tonsil, such as rheumatism and tuberculosis.

You may ask why do we have this type of tonsil? In other words, what causes the submerged tonsil? The cause is the plica tonsilaris, a remnant of embryonic life and this membrane stretches over the superior and anterior potrion of the tonsil, preventing the emptying of the tonsilar crypts during the act of swallowing.

This membrane also binds down the tonsil, causing a direct pressure against the Eustachian tube.

This obstruction due to the bound down tonsil does not allow the Eustachian tube to drain the middle ear causing a retention of fluid in the tympanic cavity.

The blocking of this tube also interferes with the ventilation of the middle ear causing a vacuum and with the retention of the fluid and the increased hyperaemia all that is necessary for suppurative process within the middle ear is the introduction of the pus-forming germ, which is always present in the mouth and nose, especially during the acute infectious diseases.

The plica tonsilaris can be likened to the elongated and adhered prepuce. The latter seldom causes a complete retention of urine and if it interferes at all circumcision would be promptly done not only for the relief of the obstruction but for cleanliness as well.

Unfortunately the plica tonsilaris causes a complete obstruction of the crypts of the tonsil and also prevents the gland from occupying its normal position and this condition may and often does remain unrecognized till middle ear complications call attention to the diseased tonsil.

Do not blame the nervous system of the infant to the elongated prepuce but examine every part of Waldeyer's ring as well as the drum head with a strong reflected light. For many times the nervous symptoms, the elevation of temperature and many of the ills laid at the door of teething will be found to be caused by some inflammatory changes within the Eustachian tube or the tympanic cavity secondary to infection of some part of Waldeyer's ring.

The indirect causes of middle ear complications are the forcible blowing of the nose, the improper use of the nasal douche, the use of the Politzer bag, the Valsalva method of inflation, and last but not least the making of applications to the throat of the struggling child during the attack of the acute infectious diseases.

The nasal douche should never be put into the hands of a patient and if used at all should be used by a well trained nurse or by the physician.

The old time method of snuffing the solution is bad practice and all containers for fluid for nasal use that suction is required to convey the fluid from the container to the nasal chamber should be condemned.

All forms of inflation in the very early stages of tubular or middle ear conditions do harm as a simple catarrhal otitis media may be converted into one of a purulent type.

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*Read before the Campbell-Kenton County Medical Society.

In the care of the throat complications during the acute infectious diseases local applications must be used with the greatest caution. For in the struggling child the Eustachian tube may be inflated during the act of crying and the bacteria forced into the middle ear.

Pain is one of the earliest and most constant symptoms of middle ear infection. It is always worse at night and especially while the patient is in a recumbent posture.

In a tubal catarrh the child may complain of pain in the ear and on inspection of the drum head the membrane will be found normal and on making pressure along the course of the tube pain will be elicited. In many instances one can make a diagnosis of tubal catarrh from this symptom alone.

After that of pain the next most prominent symptom is the condition of the drum head. If inspected early and this should always be done in all of the acute infectious diseases, the membrane will be found to be red along the junction of the drum head with that of the external canal. In a few hours the whole tympanic membrane will be red, the short process and the long handle of the malleus will have disappeared, the light reflex no longer be seen and a bulging may be found in some portion of the drum head.

The temperature is usually not much elevated in the catarrhal type, whereas, in the purulent otitis the temperature may reach 103 or higher. Should the middle ear infection develop during the height of scarlet fever or measles the elevation of temperature may be overlooked as a symptom of the typmpanic involvement.

The discharging ear is always a positive symptom of middle ear infection and when this symptom develops it is a positive indication that the physician was not called early enough or that the middle ear condition had not been recognized.

Furunculosis may be mistaken for middle ear infection if care is not exercised in making a differential diagnosis. In tympanic involvement no pain is complained of on moving the auricle. In furunculosis the least movement of the auricle causes great pain to the patient. The use of the head mirror and the reflected light in the examination of the drum head will determine whether the trouble is located in the middle ear or whether it is a furunculosis in the external canal.

The prognosis as to life of the individual in middle ear complications is good providing early and free drainage is obtained. The prognosis as to hearing depends on the extent of the inflammatory change and the amount of tissue destroyed. It is well to remember that no ear that has had either a catarrhal or a purulent condition within the tympanic cavity escapes without some adhesions and the function of hearing is damaged in ratio to the number of times that the middle ear or tube has been involved and the amount of adhesion following the involvement.

The treatment may be divided into the preventative and the curative. Under the preventative treatment all diseased tissue in the throat and post-nasal space should be removed as soon as discovered. The child is never too young for the removal of adenoids if they are hypertrophied or diseased. It is the young child with diseased adenoids that develop middle ear complications during the cutting of teeth.

Should the patient come under observation early, that is, before the bulging of the drum head, the phenol-glycerine solution may give much relief. This solution consists of ten per cent of phenol and ninety per cent. of glycerine and is used in the external canal in the following manner: A pledget of cotton is so shaped that it will fill the canal snugly, it is then saturated in the phenol-glycerine solution, warmed over a flame till hot and applied as warm as the patient can stand it. Usually by touching the cotton to the back of the hand the proper temperature can readily be determined. Care must be exercised to place the pledget of cotton against the drum head for if it is not in close apposition to this membrane no results will be obtained.

Dry heat applied to the external ear is very grateful to the individual suffering with ear ache. Chloroform blown into the ear through the inverted pipe may relieve the pain in the early stages in the catarrhal type.

It is the pain that prompts the patient to seek relief and there is nothing that will relieve the pain as quick and as completely as an opiate, either in the form of morphia or the deodorized tincture of opium. The dose should be large enough to control the pain and it is much better to give one large dose than several small ones for the prolonged use of narcotics may mask a mastoid involvement or give the patient a false security that may be fatal to the best treatment of the case.

Hot water, as warm as can be borne dropped into the external canal, or it may be allowed to run into the canal under a very low pressure from a fountain syringe, relieves the distress of the patient in some of the cases. Oils and tincture of opium have no virtue either as a curative or as a palliative measure and as the oil does harm owing to clogging the external canal and coating the drum head preventing the surgeon from getting a view of the tympanic membrane it should never be used.

As soon as bulging is noticed a free incision should be made. For the sooner free drainage is obtained the better it is for the patient. A clean cut heals readily and by incising the drum head less tissue will be sacrificed than if spontaneous rupture takes place.

The early incision relieves the individual of much suffering and the early and free drainage may prevent mastoid complications. The return of pain after the drum head has been incised is a positive indication that free drainage is being interfered with. The external canal should be made as aseptic as possible before the drum head is incised, for after the operation for the drainage of a catarrhal otitis the tympanum may be infected through the incision.

On incising the drum head a general anesthesia should be used unless you are sure that the patient can be controlled for the operation is very painful if the patient should move the surgeon may do great damage to the ear structure.

There is no known local anesthesia that will have any effect on the drum head unless there is a perforation through the membrane large enough to permit the anesthetic to reach the middle ear. The nearest preparation to a local anesthetic that we have is one consisting of equal parts of the crystals of cocaine, menthol, and phenol. These drugs are allowed to form a solution on mixing and is then applied to the drum head on a small pledget of cotton.

This preparation has little, if any, effect on the inflamed drum head. But on the other hand, if there is a perforation allowing the solution to get through and behind the drum membrane then the anesthesia is perfect.

In treating the catarrhal type of middle ear infections, after the drum head is incised the dry treatment is the better. This consists in mopping the external canal with sterile cotton till the canal is clean and the external ear is dressed with sterile pads to exclude infections from without.

Should the discharge continue for several days the external canal may be irrigated with a warm alkaline solution and there is nothing better than the ordinary baking soda in the proportion of one teaspoonful to the quart of sterile water. After the ear is irrigated it must be thoroughly dried and a solution containing equal parts of distilled water and alcohol with twelve grains of boracic acid to the ounce is instilled into the ear at the body temperature.

The purulent type should be treated by irrigation and the use of the alcohol boracic acid and water solution.

Dioxogen has no place in the treatment of a running ear for the gas may force the infection through the attic into the mastoid cells or even into the brain cavity if much bone has been destroyed.

Powders of all kinds should be used with care and then only in those cases with a large perforation. Inflation can be used after the acute stage with much benefit to the patient. This is especially true in the catarrhal type with exudation. For it is in this class of cases that we see the retracted drum head and the adhesions of the ossicles these conditions materially interfere with the transmission of sound to the oval window. It is in this class of cases that we find the individual in after life complaining of head noises and deafness.

In all cases of running ear if the individual has submerged or diseases tonsils and the acute symptoms have subsided for in many of these children it is the diseased lymphoid tissue that causes the middle ear infection and as long as the diseased tonsils and adenoids remain, so long will the discharge continue. In many children with a running ear after the removal of the tonsils and adenoids the discharge ceases in from one week to three months without any treatment excepting keeping the ear clean.

In conclusion let me urge you all to use the head mirror and reflected light in all cases of the acute infectious diseases, examine all ears in these conditions and pay strict attention to the ear during attacks of la grippe, for in no other disease do we see as many ear involvements, nor is there another condition in which the destruction of the middle ear structure is as rapid as that occurring during or following an attack of influenza.

Remember that the discharging ear is a dangerous ear and needs prompt and vigorous treatment.

Do not hesitate to open an ear drum, for free drainage is the key note to a rapid recovery.

Always examine the drum head in young children, if there is an elevation of temperature without an apparent cause.

Remember this is the day of preventive medicine and the majority of middle ear complication can and should be prevented.

Roentgenoscopy of Primary Focus in Lung.—Simon gives roentgenograms which show a small, sharply outlined focus in one lung in three cases of tuberculous bronchial lymphnodes. He is convinced that this focus in the lung was the source of the glandular disease.

NEWS ITEMS AND COMMENTS

Dr. Geo. M. Jessee of Pleasureville, Henry County, has moved to California.

Dr. S. J. Hower, of Croppers, has moved to Pleasureville.

Dr. Richard Dewey of The Milwaukee Sanitarium, for nervous and mental diseaess, Milwaukee, Wisconsin, has secured the services of Dr. Herbert W. Powers as senior assistant physician. Dr. Dewey continues to reside at the Sanitarium and in active personal charge of the medical service. Dr. Powers comes from seven years successful service at the Kenilworth Sanitorium.

The County Board of Health for Russell County, Kentucky, met at the court house in Jamestown, on Saturday, the 26th day of April, 1913, for the purpose of re-organizing said board. The meeting of the board was called to order by J. B. Scholl, chairman, after which W. G. D. Flanagan was nominated and elected President; J. S. Rowe, Vice President, and J. B. Scholl was nominated and elected Secretary and Treasurer of said board. The members present and voting were as follows: J. B. Scholl, W. G. D. Flanagan, J. S. Rowe, A. M. F. Hill, County Judge; and J. N. Meadows. There being no further business, on motion and second, the meeting adjourned.

J. B. Scholl, Secretary.

AN APPEAL FOR A MONUMENT COMMEMORATING JOHN MORGAN, FOUNDER OF THE FIRST MEDICAL SCHOOL IN THE UNITED STATES OF AMERICA.

John Morgan was born in Philadelphia, Pa., in 1735. He received his A. B. degree from the College of Philadelphia, now the University of Pennsylvania, in 1757. He was graduated Doctor of Medicine from the University of Edinburgh, and became a licentiate of the Royal College of Physicians of London, and later a Fellow of the Royal Society.

During the Revolutionary period, Dr. Morgan was Director General of the Hospitals and Physician-in-chief of the American Army. He was also a member of the American Philosophical Society of Philadelphia and in 1765 a Fellow and one of the founders of the College of Philadelphia for Physicians, and later one of its censors.

In 1765 he persuaded the Trustees of the College of Philadelphia to organize the first medical school in America, and in this institution he became a professor and lectured for three years. He was thus in the fullest sense the father of medical education in the United States of America.

Dr. John Morgan died October 15, 1789, and lies buried within St. Peter's Church, Philadelphia. No monument marks the place where his remains repose, and it seems now desirable to the Philadelphia Medical Alumni of the University of Pennsylvania that the name of John Morgan should be fittingly honored by some appropriate monument.

It is believed that the medical profession in general in the United States, and all who directly or indirectly have owed anything to medical education, will heartily approve of this movement. Much has been done to commemorate the heroes of war, but to few men does the country owe a heavier debt than to John Morgan, who is the undisputed parent of our first medical education throughout the country. It is hoped, therefore, that all medical institutions here and elsewhere may be in sympathy with this commemorative movement and unite with us in suitably marking that last resting place of John Morgan, and erecting a monument to his memory.

This idea of a memorial monument has been so graciously received and so hopefully considered that there is no doubt of the purpose of this committee being affected. It is therefore with pleasure that we ask you to consider with favor the enclosed appeal for financial aid and the accompanying statement concerning the method by which contributions should be collected and forwarded.

Edgar Fahs Smith, M. D.,
Provost of University of Pennsylvania.
S. Weir Mitchell, M. D.,
William Osler, M. D.,
William Pepper, Jr., M. D.,
Clarence P. Franklin, M. D.,
Swithin Chandler, M. D.,
Chairman.

Tubercle Bacilli in Dust.—Englehardt has worked out a practical method for determining the presence and number of tubercle bacilli in aspirable dust. The dust is taken up in a vacuum cleaner with a filter which retains in water the aspirable dust; the dust is then treated with antiformin to kill off all other germs and the sediment is injected into the abdominal cavity of guinea-pigs.

Tuberculosis of the Stomach.—Melchior examined the stomach for tuberculosis lesions in 1,459 cadavers, including 848 adult consumptives, and found ulcerative tuberculous processes in the stomach of six of this latter group. There had been no symptoms of the stomach involvement during life in any of the six. The stomach lesions were of an acute nature in all.

BOOK REVIEWS

Diseases of the Ear—by Phillip D. Kerrison and published by J. B. Lippincott Company, Philadelphia. Price $3.00. This volume meets the requirements of the general practitioners and specialists in that it furnishes an accurate, up-to-date and reasonable treatise upon this important branch of medicine. Its practicability is made plain in the text and supplemented by the excellent illustrations which it contains.

A Treatise on Tumors—By Arthur E. Hertzler, M. D. Ph.D. Illustrated with 538 engravings and eight plates. Lea and Febiger, publishers, Philadelphia. This most excellent volume presents in a practical way the problem of tumors and classifies them in such logical manner that differentiation is made plain. This result is largely brought about by the superb illustrations of tumors en masse, in situ, and in sections.

Dr. Bernstein's Book on the Use of Solidified Carbon Dioxide—Published by Frank S. Betz Company, Hammond, Indiana, contains a good many novel uses for the use of soldified carbon dioxide. Some of the recommendations are ultra-practicable and this book fails to convince one that the use of this agent will be used more extensively than its present limited field.

Epidemic Cerebro-Spinal Meningitis—By Abraham Sophian. Published by C. V. Mosby Book Company, St. Louis. Price $3.00. This volume of 255 pages reviews the present knowledge concerning this disease and takes up various methods of diagnosis and treatment, together with the complications and has in its text twenty-three illustrations.

Narcotic Drug Diseases and Allied Aailments, Pathology, Pathogenesis and Treatment.—By Geo. E. Petty, M. D., Memphis, Tennessee, illustrated. Published by F. A. Davis & Company, Philadelphia. Price $5.00. This volume contains 504 pages and devotes a considerable portion of its text to treatment of various drug habits and makes a special plea for the reclamation of habituees who are commonly regarded as hopeless.

Tuberculin in Diagnosis and Treatment—By Francis Marion Pottenger, with thirty-five illustrations, published by C. V. Mosby Book Company, St. Louis.

This volume contains 225 pages and recommends the use of tuberculin in diagnosis and treatment of the disease. While the arguments are clear and comprehensive, they are not, by any means, convincing and much will have to depend upon the judgment of the reader to select some of the really worth while articles it contains.

Golden Rules of Diagnosis and Treatment of Diseases.—By Henry A. Cables. Second Edition by C. V. Mosby Book Company, St. Louis. This handbook contains a large number of practical methods of treatment of common diseases and will be of considerable value to the busy practitioner.

The Accessory Sinuses of the Nose.—By Ross Hall Skillern. Published by J. B. Lippincott Company, Philadelphia. Price $5.00. This book is profusely illustrated, printed in clear type on splendid paper, containing subject matter full of interest and of practical application. This volume of 380 pages makes a valuable addition to the library of the physician who treats the catarrhal and suppurative diseases of this region.

Keen's Surgery Volume VI.—The Volume with the newest surgery. By 81 eminent surgeons. Edited by W. W. Keen, M. D., LL. D., Hon. F. R. C. S., (Eng. and Edin.), Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Octavo of 1177 pages, with 519 illustrations, 22 in colors. Philadelphia and London: W. B. Saunders Company, 1913. Entire work, consisting of six volumes, per volume: Cloth, $7.00 net; Half Morocco, $8.00 net.

The contributors to Volume VI rank among the highest in the surgical world and, needless to say, their special articles are most practical. Among the many excellent chapters are to be found those upon inflammation, surgical tuberculosis, surgical shock, anoci-association, surgery of the muscles, tendons and bursae, parathyroids, hernia, surgery of the eye, surgical technique, surgery of accidents and military surgery.

W. B. Saunders Company, Publishers of Philadelphia and London, have issued another edition (17th) of their handsome illustrated catalogue.

In going through this edition we find it describes nine new books and ten new editors, not described in the previous issue. These new books are of great interest to the medical man, because they treat of subjects being daily discussed in medical circles.

Any physician can get a copy of the Saunders' catalogue by dropping a line to these publishers. A copy should have a place on the desk of every physician, because it is most valuable as a reference work of modern medical literature. Send to Saunders to-day for a copy.

Preventive Medicine and Hygiene—By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard University; formerly Director of the Hygienic Laboratory U. S. Public Health Service. D. Appleton and Company, Publishers, New York. Price $6.00.

This book was written "in reponse to a demand" for a modern treatise on hygiene and sanitation as stated by the author in the preface. There is no doubt that there is such a demand on the part of hundreds of physicians who have been unable to keep up with the rapid progress which has been made in preventive medicine and hygiene and who are unable to purchase the works which have been published in recent years on the special subjects, such as specific or special prophylactic measures, immunity and spread of disease, heating, ventilation, foods, water contamination, water analysis and purification sewage and garbage disposal, vital statistics, etc. To such physicians this work will be of inestimable value as it contains all the latest researches and findings in these various subjects. It is deserving of a place in every physician's library. The chapter on Heredity and Eugenics deals with these subjects in the light of the most recent investigations and is well worth reading by parents and teachers as well as physicians.

The chapter on Sanitary Analysis of Water contains all the necessary information for such an analysis. It is a complete resume of the Standard Methods as reported by a committee of the leading water analysts to the American Public Health Association. These methods are in use in all the Water Laboratories of the United States.

The chapters on Sewage Disposal and Refuse Disposal were written by Prof. George C. Whipple who is recognized as a leading authority on these subjects and the chapter on Vital Statistics by Dr. Cressy L. Wilbur, Chief Statistician of the Census Bureau which assures the latest and best things in this important work.

Under the title of Venereal Prophylaxis and Sex Hygiene which at this time is attracting much attention and receiving the thoughtful consideration of both physicians and laymen, there are some excellent and timely suggestions. In fact, the entire work is worthy of commendation. It is to be regretted that some of the statistics on water purification were not revised and brought up to date of publication, but these are of minor importance.

If space would permit, we would like to quote some of the things that ought to be known, not only by every physician but by every intelligent citizen. The publishers are to be congratulated on the mechanical execution, especially, in using type large enough to be easily read and avoiding insets of small type which mar so many otherwise excellent books. E. H. M.

Two Cases of Cervical Rib.—McKenna employs a portion of the scalenius medius muscle to cover the upper surface of the denuded first rib, thereby forming a cushion for the brachial plexus and subclavian vessels.

COUNTY SOCIETY REPORTS

Bell—The Bell County Medical Society met in Middlesboro, at the offices of Drs. Robertson and Edmonds on the evening of December 13, 1912. The meeting was called to order by President J. Harry Hendren, and the following members responded to the roll call: Drs. Robertson, Edmonds, Broshear, Brummett, W. K. Evans, Curd, Gibson, Tinsley, Chance, Fitzpatrick, Schultz, Sutton. The minutes of the previous meeting were read and approved, after which report of standing committees were called for, and the committee appointed to present a schedule of fees, asked for further time and their report was carried over to next meeting. The report of officers was called for, and the Secretary presented his report for the year, which was accepted as read.

The Treasurer presented his report for the year, which showed a balance in the Treasury of $11.25. His report was accepted.

The report of the Board of Censors, on the application of J. P. Sutton, was favorable, and he was duly elected a member of the society.

J. G. Foley made a short report on the sanitary conditions prevailing over the county, and his report was discussed by several members present.

This being the last meeting of the year, the scientific part of the program was dispensed with in order to allow time for the election of officers, and other matters pertaining to the next year's work.

The President declared the meeting open for the election of officers and Jacob Schultz was nominated for President, which was seconded. A motion was made to close the nominations for President, declare Dr. Schultz unanimously elected, which was carried, and the President ordered the Secretary to cast the vote of the society for Dr. Jacob Schultz for President for the year 1913.

H. C. Chance was duly elected Vice President by unanimous vote, the Secretary casting the vote of the society.

O. P. Nuckols was elected Secretary for the year 1913 by unanimous vote.

U. G. Brummett was re-elected Treasurer by the unanimous vote of the society.

By reason of Dr. Schultz being elected president there were created two vacancies on the Board of Censors, and J. P. Edmonds and B. E. Gianinni were elected to fill the vacancies, and the board as now composed is F. D. Haston, 1913; J. P. Edmonds to succeed Dr. Schultz, 1913-14; B. E. Gianinni, 1913-14-15.

After the election of officers, the meeting took up the matter of adopting an annual program for the year 1913. The method of an annual program was approved and the following committee appointed to draft a program for next years' work: H. C. Chance, C. K. Brosher, B. E. Giannini, with the President and Secretary ex-officio members. A resolution was passed requiring each member whose name appeared on the program for a paper, to file a typewritten copy of said paper with the Secretary not later than five days before the meeting at which it was to be read, and that upon failure to do so, the Secretary will call on some one else to fill such time, and the member so failing will be debarred from again appearing on the program for the year. Papers so filed with the Secretary will be read in the absence of the author, by the Secretary or some one designated by the President to do so. A motion was made to raise the dues to $4.00 which was carried. There being no further business, the meeting adjourned to meet at Pineville, the second Friday in January 1913.

O. P. NUCKOLS, Secretary.

Crittenden—The Crittenden County Medical Society met in McConnell building, Marion, June 4, 1913, at 1 P. M.

The meeting was called to order by the President, V. R. Fox, with the following physicians present: C. G. Moreland, T. Atchison Frazer, R. L. Moore, I. H. Clement V. R. Fox and J. E. Fox.

V. R. Fox read a paper on "Diphtheria," which was discussed by R. L. Moore, J. E. Fox, T. A. Frazer and V. R. Fox.

The remainder of the time was spent in discussing case reports.

Adjourned to meet July 2, 1913.

J. ERNEST FOX, Secretary.

Carlisle—The Carlisle County Medical Society met at Cunningham, June 3, in C. D. Shelbourne's office. Members present, Shelbourne, Jackson, Hocker, Payne, Marshall, W. L. Mosby Crouch and Dunn.

T. J. Marshall read a very able paper on "Abortions." He gave the causes, symptoms and treatment in a very clear and concise manner. He scarcely ever curetts. He packs and waits twelve to twenty-four hours removes everything and re-packs. Insists on rest in bed and gives viburnam.

The discussion was opened by **W. Z. Jackson.**

W. L. Mosby said we should not be too hasty in terminating, spare the fetus if possible. Also we should not curette too often in the same case.

G. W. Payne never uses the auger curette. He simply packs and waits and scarcely ever uses any curette.

C. D. Shelbourne (emphatically) never uses curette in abortions. Keeps packing and repacking till results come and says they will come by and by.

The paper was further discussed by **Crouch** and **Hocker.**

All very highly complimented the paper, the discussion of which was closed by T. J. Marshall.

The society adjourned for dinner, which was an excellent one prepared by Mrs. Shelbourne.

Reassembled at 2 o'clock.

R. T. Hocker, forgetting to bring his paper on "Cystitis," read an instructive talk on that subject.

W. L. Mosby opened the discussion. He says fracture of spine generally causes cystitis. He has had three cases all of which had cystitis.

H. T. Crouch gives opiun if pain is severe.

C. D. Shelbourne does not give opium but instead gives cannibis indica and gelsemium. Most all the members agreed on the main treatment, which consists of removal of cause, such as tumors, pressing organs, dirty instrumentations, foreign bodies, etc. Hexamethylene tetramine, benzoic and boric acid, potash and irrigations.

R. T. Hocker closed the discussion.

The society agred to meet on Forked Lake in September and take their families.

The society extended a unanimous vote of thanks to Dr. and Mrs. Shelbourne for the excellent dinner and the many courtesies shown.

J. F. DUNN, Secretary.

Grant—The Grant County Medical Society met in the office of Dr. A. V. Menefee with the following members present:

J. H. Brown, J. J. Marshall, of Crittenden; J. L. Price, Sherman; C. A. Eckler, Dry Ridge; J. G. Renaker, Dry Ridge; J. W. Abernathy, Mason; H. R. Simmons, Corinth; L. A. Hediges, Cordova; N. O. Matthews, A. V. Menefee, W. J. Zinn, C. M. Eckler, of Williamstown.

Meeting called to order by President H. R. Simmons. Minutes of previous meeting read and approved. W. B. Robinson, of Corinth, proposed for membership. Proposl areferred to board of censors.

C. A. Eckler read a most interesting paper on "Auto-intoxication," which was thoroughly discussed by Drs. Menefee, Price, Matthews, Brown and Abernathy.

J. J. Marshall read an excellent paper on "Exophthalmic Goitre," which was brief and to the point and brought out a varied discussion.

H. R. Simmons read an interesting paper on "Lacerations of the Perenium and Cervix," covering the subject thoroughly from anatomy to repair. This paper was spiced with the usual humor that is characteristic of the writer.

There is more interest manifested, a larger membership and better attendance than any previous year of our existence.

C. M. ECKLER, Secretary.

Hart—The Hart County Medical Society met in regular session at the court house in Munfordsville, June 3rd, 1913, at 1 P. M. The society was called to order by the President, J. W. Craddock, and after the reading and approval of the minutes of the last meeting, the question of powers and duties of members of the county board of health was taken up and discussed. By a vote of the society the secretary was directed to communicate in writing with the secretary of the State Board of Health for the necessary instructions.

Next the regular program was taken up and the subject of "Vaccine Therapy," was given by **L. E. Comstock** and discussed by the society.

L. E. Comstock said: I believe in many instances vaccines are a source of more evil than good. If we are to believe all that pharmaceutical houses tell us, we can throw aside all other remedies and carry a store of their stock vaccines and thus have a panacea for all diseases. One great trouble with the present use of vaccines is that doctors give them in too heavy doses and give them too close together. Vaccines should not be given to the point of reaction. All that they do is to raise the opsonic index, and when used in too large quantities they lower rather than raise the opsonic index.

I use stock vaccines in a spirit of doubt. Only by autogenous vaccines can acute diseases be handled. The sera and some vaccines are of great value. Have seen some remarkable results from the use of tuberculin. But it should never be used to the point of reaction.

Here Dr. Comstock gave some statistics from the clinics of the Chicago Policlinic and described the technique used there by Dr. McMichael. His talk was exceptionally interesting and instructive.

J. H. Hester said he had used tuberculin in many patients having tubercular throat diseases with marvelous results. He first uses the Von Pirquet test. He prefers the glycerine emulsion of dead tubercle bacilli, and uses larger doses than Dr. Comstock recommended.

Next the subject of the "Sphygmomanometer and Its Uses," was taken up by **H. P. Honaker.** He thinks the instrument could be made very useful for diagnostic and prognostic purposes. He demonstrated its use with a Riva Rocci by taking the blood pressure of some of the doctors present. He referred to the different types of instruments and expressed his prefernce for the mercurial instrument. He thinks the dial instruments are too liable to get out of order.

Next the subject of "Personal Experiences with Thoracic Surgery," was discussed by the President **J. W. Craddock.** He says the principal cause of eclampsia is pleuro-pneumonia. He reported several cases which he had treated. In his diagnosis he depends more upon percussion than auscultation from the fact that often the breathing sounds continue in the deeper areas of the lung even when the pleural sac is filled with fluid.

The subject of "Epilepsy," was briefly discussed by **S. F. Richardson.** She treats her cases mainly through the gastro-intestinal conditions which usually underlie such cases. Her treatment consists largely of calcium lactophosphate and strontium bromide. She reports some remarkable cures.

L. E. Comstock says he can never tell when a case is cured. Often cases are apparently well when the attacks suddenly return and continue often in a more aggravated form than before the remission. He uses the laxatives, as cascara co.; also sodium nitrate and large doses of bromides.

H. P. Honaker asks the doctors if they ever take the plood pressure in epilepsy.

J. H. Hester uses S. S. KI.

J. J. Adams reported a case of traumatic epilepsy resulting in death.

The society adjourned to meet at the call of the President.

W. F. NICHOLS, Secretary.

Muldraugh Hill—The Muldraugh Hill Medical Society held its regular April meeting at Upton as the guest of C. T. Riggs. The meeting convened in the Methodist Church at 11:10 A. M., and was called to order by President D. C. Donan, about thirty members being present.

The reading of the minutes was dispensed with and the Secretary asked to make a financial report after which the recess was called for the purpose of paying the dues. After the payment of dues the Secretary offered a resolution that the society go on record as opposing all pernicious medical legislation designed to lower the standard of medical requirements such as the proposed optometry bill and that the society both as a whole and through the agency of the various county societies endorse the work of the State Board of Health and pledge their earnest support against all such legislation above referred to.

C. Z. Aud, Rodman, Board and **Willmoth** spoke in favor of the resolution. Seconded. Carried.

Meeting adjourned for dinner. Reconvened at 1:15 in the Methodist Church about one hundred being present.

Invocation was pronounced by Rev. Dr. Coe. This was followed by a very happy address by the Rev. Dr. Hickerson, after which the President asked Dr. Curran Pope to respond, which he did in his usual faultless manner

We were then treated to a song by the quartette of the church which was greatly enjoyed.

Scientific Program.

The society for the first time started its proceedings under the pen of an official stenographer.

Curran Pope, of Louisville, presented some interesting X-ray plates. This was followed by the report and presentation of clinical cases by **C. T. Riggs,** of Upton. First case, "Acute Anterior Poliomyelitis with Recovery." Case 2, "Acute Anterior Poliomyelitis, Recovery with Paralysis of the Peroni Group of Muscles." Case 3, "Progressive Muscular Atrophy." These cases were discussed by Curran Pope.

Essays.

John R. Wathen, of Louisville, read an interesting essay on "Exophthalmic Goitre." Discussion by Drs. Rodman, Nichols, Atkinson, Willmoth, Pope, Hall McChord closed by Dr. Wathen.

C. V. Hiestand, of Merrimac, followed with a paper on "Ascites." As the hour was getting late discussion was dispensed with in order that Prof. Mark, who was the guest of the society, might deliver his address on "What the Physician Can Do To Aid the Sanitary Engineer." Prof. Mark's address was warmly applauded and discussed by Drs. And, Pope, and Rodman. A vote of thanks was tendered Prof. Mark for his address.

Curran Pope spoke on "The Newer Psychology," and illustrated his subject with many diagrams.

Hugh D. Rodman followed Dr. Pope with a paper on "Anesthesia and Anaesthetics in Labor."

Following this paper, it being near train time, the society adjourned to meet again at Elizabethtown in August.

It was a matter of regret that the President of the State Society, Dr. Roberts, was prevented from attending the meeting and the members look forward in anticipation to his visit to the society in August.

The brevity of the proceedings at this meeting is due to the fact that the members talked faster than the stenographer could write, in fact he was literally taken off his feet. We feel, however, that with a little experience he will be more than equal to the occasion.

At the conclusion of the meeting a rising vote of thanks was tendered to Dr. Riggs and Dr. Turner as hosts; to the trustees of the Methodist Church for the use of their church and to the citizens of Upton generally for their generous hospitality.

GAYLORD C. HALL, Secretary.

Pike—The Pike County Medical Society met May 5th, 1913, at the office of W. J. Walters. Minutes of our last meeting (February- were read and approved as read. The following physicians were present: J. W. Vicars, S. B. Casebolt, W. J. Walters, Z. A. Thompson and H. C. Bevins.

The application of R H. Dunn, of Stone, was received and read and Drs. Thompson and Casebolt were appointed to investigate his qualifications. Also the application of R. S. Johnson, of Praise, was received and read and Drs. Casebolt and Stallard were appointed to investigate his qualifications. Both of these committees to report at our next meeting.

The discussion of "Pellagra," consumed most of the evening. It was agreed that the Pike County Medical Society should pay the exp nse of bringing two cases of Pellagra to our next meeting.

On motion of Dr. Thompson it was decided that our Secretary should write to all the doctors in the county that our next meeting, June 2nd, would be a Pellagra Meeting, and that we would be glad to have them present.

Also that we invite Dr. J. W. Kincaid, of Catlettsburg, to be present at that meeting.

On motion of Dr. Bevins, the society was adjourned to meet again June 2nd, 1913.

W. J. WALTERS, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, on Wednesday, May 14, 1913, with the following members present: Drs. Brown, Chipman, Clark, Cram, Dougherty, Ellis, Kendall, Nichols, John E. Wilson, J. Ed Wilson, Woolery, F. L. Ratterman, of Cincinnati, Ohio.

A specialist on diseases of the digestive system was present and added very much to the splendid occasion. He gave a number of good talks in discussing several cases that came up.

H. C. Clark read a very able paper on "Difficult Labor," and brought out some fine things that have occurred in his extensive practice. This paper was ably discussed by many of the members present.

S. M. Hopkins read a very good paper on "Septic Infection," which also elicited quite free discussion.

All members present expressed themselves as well pleased with the splendid program, and the able discussion of the papers.

The report of clinical cases was one of the best features of the day.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: Drs. Beckett, Blakerby, Brown, Chipman, Clark, Cram, Ellis, Hopkins, Kendall, McKenney, Nichols, John E. Wilson, Woolery, Dr. Caldwell visiting.

We had a report of clinical cases and there being no essayists present we had no papers, but a general talk and a pleasant meeting.

We then adjourned.

W. A. McKENNEY, Secretary.

Incubation of Acute Poliomyelitis.—Schoug's experience does not sustain the assumption of insect transmission of this disease. Direct infection from the mouth or nasal secretions seemed more probable. The incubation period in nine cases reported in detail was four days in some, in others up to the tenth day. The occurrence of the disease in winter when insects are less common is a special argument against insect transmission.

JEFFERSON COUNTY NUMBER

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 14 JULY 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES.

MANAGEMENT OF MISCARRIAGE.

By I. A. ARNOLD, Louisville.

I have nothing new to offer on the management of miscarriage, but, as it is a condition that confronts us almost daily, I deem it wise that we review some of the essential points connected with it.

In the management of miscarriage I include all forms of interrupted pregnancy. For convenience we may divide this into three divisions, first, preventative treatment, second, during progress and third, after-treatment.

In the case of a woman, who has repeatedly failed to carry the product of conception to term, the treatment must often begin before conception occurs. The symptoms, both subjective and objective, must be carefully analyzed, and any defect found must be remedied. If there is any history of syphilis, either in the father or mother put them on antisyphilitic treatment; if she be a nervous woman this should receive attention and she should be given such drugs as bromides as a sedative, also a good tonic. If there is any other disease or a depraved, run-down condition it should receive proper attention. In the treatment of women, any disease of the uterus should be the object of attention. If there is an endometritis or cervicitis, there should be a thorough curettage, followed by an application of tincture of iodine. A laceration of the cervix must be repaired; an eroded or cystic cervix should be amputated. If the uterus is large and soft 10% ichthyol and glycerine tampons inserted every second day, followed by a saline douche are useful. Any displacement of the uterus such as anti or retroflection or anti or retro-version should be corrected. Any other pathological condition or deformity of the pelvic organs should receive proper attention. A lacerated perineum must be repaired in order to properly support the uterus. General hygienic measures must not be omitted, such as, suitable clothing, proper exercise in open air, and wholesome food, easily digestible. It is worth while to inquire into the patient's habits of life for you may find something that will greatly assist you in understanding the case.

When the patient is already pregnant, and the history you obtain proves that the early abortions have been the habit of occurring at the time when a menstrual period might otherwise be expected, the patient must be kept in bed and free from all care at such times. You must also prohibit sexual intercourse and sexual excitemnt during such times. Give sodium bromide in 10 or 15 gr. doses every three or four hours to quiet the nerves, and to allay sexual excitement. Instruct the woman not to think of her condition as it often aggravates the condition. Keep the bowels open and prevent the accumulation of hard fecal matter in the rectum as the pressure often acts as a vaginal tampon. Virburnum should be given in half drachm doses every three or four hours as uterine sedative, or a mixture of helonian compound, which I have found to be the more effective of the two. Keep the patient on a liquid diet. If there is any sign of hemorrhage or pain, such as the patient describes as bearing down feeling, you should at once give a 1-4 grain morphine hypodermatically and repeat every four hours until uterine contractions cease or miscarriage is inevitable; vaginal examination should be restricted, however, if necessary, it must be done with the greatest of care, as we are aware of the fact that it often happens that the very slightest manipulation of the uterus may cause the expulsion of the contents, which otherwise, would not have occurred. If you are successful in preventing the abortion at this period, it is well to keep the patient on small doses of iodide of potash combined with bromides for the following month or two.

Despite all endeavors, if abortion takes place the treatment may be either expectant or active. These two forms of therapy should not be considered as diametrically opposite, but rather supplemental one to the other. The expectant plan of treatment is right and justifiable to a certain point, but, when natural forces fail, or dangerous hemorrhages appear, active treatment must be vigorously enforced. Expectant treatment may be furthered by such drugs as ergot and quinine the former should not be given in large doses lest the danger of tetanic contractions. The dangers of expectant treatment lie in the fact that the patient may suffer great detriment to health, such as improper involution of the uterus and also it may afford opportunity for septic infections.

Hellander has reported seventy-four prolonged abortions in which not one uterus remained sterile; all contained bacteria, though only twenty of the patients had any fever. some authors say so long as the patient's health does not suffer, the expectant plan of treatment may be carried on safely. Although I do not consider any woman's health who has had a miscarriage after the third month, not in danger, it is a self-evident fact that when there are perceptible signs of derangement, we have waited just that much too long. Although the kind of miscarriage may modify this statement to some extent, if the miscarriage is the result of a badly lacerated cervix or any other natural or unnataural weakened predisposition, it is well to let nature empty the uterus, which it usually does and is complete. When the condition is brought about by some violence, either internal or external, or the result of some criminal operation, I cannot understand why some consider it wise to treat on the expectant plan longer than 24 to 36 hours, because the blood and retained products of conception form one of the best culture media for all forms of bacteria, hence the ultimate result is septicemia. I usually wait say from 24 to 36 hours after the interruption of conception has become inevitable, for the uterus to empty itself, unless some special indication, such as hemorrhage, warrants earlier interference.

In the mechanical evacuation of the contents of the uterus, perfect asepsis must be practiced the same as in an abdominal section. This evacuation may be accomplished in three ways; first, the introduction into the vagina of a tampon of sterile gauze; this method I do not consider altogether safe, in fact, it may do more harm than good, for in many instances it will not produce a complete evacuation of the uterus, leaving retained some of the decidua or placenta, which will later have to be removed by other means, and it must be remembered that repeated attempts to clean the uterus are fraught with great dander to the patient because of the likelihood of septic infection. Mechanical evacuation should be done thoroughly and with all the aseptic precautions that a conscientious practitioner has at his command. It makes little difference whether it be done manually or instrumentally so long as it is thoroughly done, and with cleanliness, but with either the hand or the curette, the vulva and vagina should be thoroughly cleansed, and the cervix well dilated in order to facilitate thorough work. If the abortion is early I prefer to use a dull curette, if late, use the bimanual method; in either, be certain that you have done the work thoroughly, especially in each cornu where particles of the placenta are often overlooked. After the uterus has been emptied irrigate with one to one thousand bichloride, then with a piece of gauze saturated with tincture of iodine touch the whole of the inside of the uterine canal, if any hemorrhage, pack with sterile gauze. Keep the patient in bed from ten days to two weeks; all douches and local applications should be avoided, unless some special indications arise. The patient should be kept clean and an aseptic vulva pad should be worn; for urination and defecation, a commode may be used, if, however, the patient is able to sit up at all. A catheter should not be used if possible to be avoided for fear of cystitis and it is wise to assure yourself that proper involution has taken place before you permit your patient to go from under your care.

One of the most serious complications arising from abortions is the septic or sapremic condition. By septic abortion is meant an infection of the uterine cavity and its contents with pathogenic germs, with the production of fever and possibly chills. It is one of the most frequent conditions met with and is commonly the result of criminal interference. In this condition the question arises, shall we empty the uterus, or shall we not? Many authors say not to interfere and equally as many say empty the uterus at once. I believe this can only be settled with the individual case. In the one where there is fairly good pulse, with or without a rise in temperature and where pain still remains in the pelvic cavity, a uterus fairly firm, and evidence of considerable resistance in the dilatation of the cervix: empty the uterus at once using a dull curret. Irrigate the uterus with one to one thousand bichloride, touch up the interior of the uterine canal with pure tincture of iodine, give bichloride vaginal douches twice daily, keep ice pack just above the pubes, give quinine and ergotine 2 grains of the former, one of the latter every two hours until you obtain effects. Keep your patient in a semi-reclining position in order to give free drainage to the uterus and, aid in preventing general peritonitis. As stimulants and nourishment, give strychnine and whisky, warm milk, broths, also some of the artificial foods may be given such as panopepton. Keep the bowels open with calomel and oil or saline; as a urinary and intestinal antiseptic give urotropin and salol. In conjunction with this treatment, I deem it of much value to use an autogenous or mixed stock vaccine. In emptying the uterus in this condition, exercise great care so as not to rupture the uterus in dilating; and in curetting and irrigating, precaution must be taken lest you puncture the uterine wall.

In the other case, if there is weak, fast, and thready pulse, sub-normal temperature or a slight rise and anxious expression, a sallow or septic color with or without foul odor, with or without pain, a large soft boggy uterus, easily dilated, it is best not to interfere mechanically, except dilate the uterus in order to give free drainage and to be able to remove all non-adherent particles; in removing the loose particles be careful not to open up any new areas for the absorption of septic products; touch the interior of the uterus with pure carbolic acid, followed immediately with an application of alcohol, or, you may use tincture of iodine, which I have found as efficient. Give inter-uterine irrigations of alcohol every four hours or oftener if necessary; if the flow fails to return stop the irrigation for, you may have a leakage into the pelvic cavity. You should have a thorough knowledge of the position and size of the uterus, a thorough understanding of the consistency of the uterus, as the importance of this condition cannot be overestimated. The septic uterus is extremely soft and the danger of perforating it necessitates the utmost gentleness. The peri-uterine tissues, as a rule, are involved in these extreme uterine infections, which may necessitate combatting pelvic or general peritonitis, which does not come under the title of this paper. Other treatment must be instigated as in any other general septic condition.

The after treatment should approach as nearly as possible to that of the puerperium at term. Unfortunately after early interruption of pregnancies, patients insist upon making light of the condition and leave their bed too early and pass from under the physician's care and treatment before proper involution takes place. Involution is relatively slower after abortions than in normal labor, hence, the danger of pelvic inflammation, uterine displacement and sub-involution. This should be explained to the patient. The persistent use of ergotine and strychnine, I have found of the greatest value in hastening involution and strengthening the uterine ligaments and later in preventing falling of the womb. After the uterus has been emptied of its contents in a non-septic case, vaginal and uterine irrigations are unnecessary, except in incomplete or neglected abortion with the symptoms of uterine sepsis; then it should be used as stated above. In these cases we have, following the most serious conditions connected with the pelvic organs, and more women are made invalids and reduced to sterility than from any other source except probably, gonorrhea. Therefore, it behooves us as physicians, to treat this subject with much concern and endeavor in an appeal to our patients to help them to look not lightly upon this condition but, if possible, help them to see that much of their future health and happiness depends upon their own attitude toward themselves.

DISCUSSION.

John K. Freeman: Dr. Arnold has presented a very practical subject and one of interest, not only to the general practitioner, but also to the gynecologist Of course, we all agree that the preventive treatment of miscarriage is to try to get the individual and the uterus in as healthy condition as possible. As to the essayist's method, I have no criticism to offer; his advice is sound and good.

In cases of inevitable abortion, the question of controlling hemorrhage is one upon which many general practitioners as well as gynecologists, disagree. I think the hemorrhage can be satisfactorily controlled by a properly applied tamponnade, which will also serve as a stimulus to uterine contraction. It is much better for the uterus to expel its contents than for us to extract them. We can accomplish nothing with a vaginal tamponnade unless we pack the cervix. I do not mean to pack it tight; that is not necessary. A strip of gauze should be carried up through the internal os, and a vaginal tamponnade applied on top of that. There are very few instances in which this method of treatment will not stop the hemorrhage. When we go back in twenty-four hours we will usually find the fetal pulp behind the tampon in the vagina, and can remove it altogether.

There is such intimate connection between the wall of the uterus and the placenta that it is often quite difficult to get rid of all of the placental tissue with a curette without destroying a great deal of uterine tissue. Therefore, if we can stimulate uterine contraction and aid Nature to throw off the foreign body, we will get a much cleaner uterus than in any other way.

However, if there is elevation of temperature—if the patient has sepsis, then we will all agree that we must handle the case just as we would any other septic infection, and remove the cause of the trouble as quickly as possible. Possibly I am a little more inclined to treat these cases on the expectant plan than most other men. I have treated a number of them in that way with very good results. Of course, when the temperature goes up I usually remove the patient to the hospital and handle the case as carefully as I would an abdominal section.

One thing I would like to call attention to is that, in the ordinary case, the treatment suggested by the essayist cannot be carried out, because of the unsanitary surroundings of the patient. In such cases I take a chance on packing the cervix, going back the next morning and removing the gauze, and the patient usually has no elevation of temperature following this treatment.

The doctor has given us a very practical paper and I have enjoyed it very much.

F. T. Fort: Speaking to the surgical phase of the subject, I believe one can accomplish as much, if not more, by cleaning out the uterus with the finger rather than the curette. A great deal of harm can be done by the use of an instrument to scrape out the uterus in a case of miscarriage. With one hand above, pressing down on the uterus, we can, sometimes without the aid of an anesthetic, carry the finger into the uterus and clean out every vestige of membrane, and when we can feel a smooth surface all around the walls of the uterine cavity, we need not fear any further hemorrhage.

I do not agree with Dr. Freeman in regard to introducing a piece of gauze into the uterus, because of the intra-abdominal pressure from above. We can put in a vaginal tampon, and in a few hours there will be sufficient dilatation to permit of carrying the finger into the uterus and cleaning out every particle of placental tissue.

Harry A. Davidson: I would like to call attention to one phase of the subject that the essayist did not mention. I think it is a wise plan for every doctor to warn his pregnant patients who have automobiles not to take long tours in them, as it is apt to induce an abortion. We know that it is becoming a favorite practice in the East for pregnant women to take long automobile rides in an endeavor to induce an abortion, and I had a case of miscarriage a few days ago which I am sure was induced by an automobile accident.

The essayist advocated the use of bichloride of mercury in a 1-1000 solution as an intrauterine douche. That would be all right in some cases, but in others, especially where there is a large area through which abortion can take place, there would be a certain amount of danger of mercurial poisoning. Such cases have been reported. Therefore, I think it would be the part of wisdom to use hot normal saline solution, and plenty of it, in preference to bichloride of mercury.

I agree with Dr. Fort that the less instrumentation we practice in cases of abortion, the better it is for our patients. In nearly every case of miscarriage, we can introduce the finger, and there is considerably less danger in introducing a gloved finger into the uterus, after taking all surgical precautions than by introducing gauze and leaving it there, because by capillary attraction, there is apt to be infection carried from the vagina into the uterus. With the gloved finger sweeping around the cavity of the uterus, we can tell from the sense of touch when the uterus is empty, and that is a very important point. When we use the curette, we cannot tell whether the uterus is empty or not.

I have enjoyed the doctor's paper very much. He has covered the subject thoroughly.

C. W. Hibbitt: This is a very important subject. That it is considered so by the American Medical Association is evidenced by the fact that a committee from that body was appointed some time ago to investigate the subject, and obtain expressions of opinion from a large number of physicians in different parts of the country as to the best method of managing cases of abortion at different stages and under varying conditions, from which the committee is to draw its conclusions and report them to the A. M. A. In due time the result of the committee's investigation will be published, and it will doubtless outline a regular line of treatment under given conditions.

There are two or three important points to be considered in connection with this subject. I am one who believes that we should put just as little into the uterus as we can get along with. Of course, there are occasional cases in which we have to use a curette, but the finger should be given the preference wherever possible, and where we cannot clean out the uterus thoroughly, where we have reason to suspect that a few little pieces of placental tissue have been left on the walls of the uterus, it is a good plan to put a piece of gauze or a sponge, on the end of a pair of long forceps, carrying it into the cervix and sweeping in around the walls. The gauze will act as a brush and remove the little particles that, when retained, sometimes give rise to a sapremic condition.

I would hesitate to use a 1-1000 solution of bichloride of mercury as an intrauterine douche unless it is immediately followed by a copious douche of normal saline solution. I would also hesitate to irrigate the uterus with alcohol unless diluted at least fifty per cent. and unless immediately followed by a douche of saline solution.

Simrall Anderson: I think the question whether or not we should use a curette in a case of miscarriage, depends to a large extent upon how early we see the case. Supposing that the case has gone along for several weeks, that everything had not been expelled at the time of the miscarriage, and that the woman has developed what may be termed an acute endometritis, no man living can get his finger into that cervix, and packing it with gauze does not do any good. There is only one thing to do; that is, dilate the cervix and do a curettment. On the other hand, when we see a case in which abortion is inevitable, where there has been hemorrhage and the cervix is slightly dilated, if, as suggested by Dr. Freeman, we will pack the cervix with iodoform gauze and then introduce a tight vaginal tampon and, if necessary, apply a T binder to prevent expulsion of the gauze when uterine contractions occur, we can let the patient alone for twenty-four to forty-eight hours, at the end of which time, if there has been any hemorrhage, the blood will have backed up behind the tamponnade, and we can often deliver the contents of the uterus in the sac, without rupture taking place, following the removal of the tamponnade.

In cases of retained secundines, where the cervix is fully dilated, after removal of the tamponnade by pressing down upon the uterus from above and carrying the finger into the cavity of the uterus, we can sometimes remove whatever secundines may be retined. However, in abortion during the early months of pregnancy, where the cervix is so small that the finger cannot be introduced, there is no better treatment than to let them alone. They cannot bleed to amount to anything, and if hemorrhage does occur, we can pack with gauze and let Nature do the rest.

I have never used an intrauterine douche except for the purpose of irrigation following a curettment; I do not believe intrauterine douching does any good.

A. C. L. Percefull: I take it that, under the conditions cited by Dr. Anderson, the condition present would be the result of a miscarriage rather than a miscarriage itself.

One question I should like to hear discussed is, what is our duty with respect to the after-treatment of individuals in whom an abortion has been induced by a professional abortionist? Should we attend such cases, or should we compel the abortionist to clean up his own dirt?

Jethra Hancock: I fully agree with Dr. Arnold in practically every position he has taken.

I should like to make just one point. In cases where it is apparent that there is some infection in the uterus, although it may not be particularly active, I believe an intrauterine douche of saline solution will secure results that we cannot obtain by any other means.

As to curettment, I do not believe it is necessary very often. I agree with Dr. Hibbitt that a piece of gauze on the end of a pair of long forceps will remove any foreign substances with less damage than a curette, and this procedure should be followed by an intrauterine douche of hot saline.

I am not in favor of using a strong solution of bichloride of mercury in the uterus. I fail to see what good it might accomplish.

A. R. Bizot: I would like to ask whether any one present has ever seen a case of bichloride poisoning as the result of intrauterine douching? I have never used bichloride of mercury in a one to one-thousand solution for intrauterine douching, but supposing that a dram of this solution was absorbed, that would be only 1-16 of a grain of bichloride, which dose is very frequently given. In fact, I believe the maximum dose of bichloride of mercury that may be given with safety has been placed at one grain. Therefore while I do not advocate intrauterine douching with bichloride, still I do not believe sufficient of the poison could be absorbed under ordinary circumstances, to cause any very ill effects. I have never heard of a case of bichloride poisoning from this source.

Wm. B. Doherty: I think conservation is the grandest term in connection with obstetrical work. To delay, in cases of abortion or miscarriage, is the best thing, unless there is well-marked evidence of sepsis, and then I prefer to use a warm douche to anything else. I am opposed to intrauterine douching with bichloride of mercury in any case. Saline is perhaps the best of all preparations to use. I have used it constantly during the past few years, and I have found it superior to anything else.

The older I get and the more cases I see, the more I am convinced that the less we put into the uterus, the better for our patients. As for the curette, as a rule I have no use for it at all. More individuals are injured by the curette than are cured by it. It is a very dangerous instrument and should not be used except under very rare conditions. I do not believe I would use it at all unless in a case where there was marked sepsis and I am sure that something remained in the uterus that would not come away after repeated efforts with my finger and by douching, to remove it. Curetting may cause the woman to remain sterile afterwards, or, if she does become pregnant, to have a miscarriage. I believe the rette has produced sterility in women more often than any other one thing. The finger is the best curette. Of course, there are some cases where a blunt curette can be used to advantage, but they are comparatively rare.

As to cleaning up after a professional abortionist, if an abortion has been induced and the woman calls upon us for treatment, we are in duty bound to render her the best service of which we are capable. However, if I knew beforehand that a case was one of criminal abortion, I would certainly insist that the other man be called also.

I. A. Arnold, (Closing): As to cleaning up after the professional abortionist, I think it is just as much our duty to treat these cases as any others. When we are called to see a man who has tried to commit suicide, we do not let him die, but try to save him. It is our duty to treat all persons, without discrimination.

As to bichloride douching, as stated in the paper, I use it only in septic cases. In non-septic cases I employ no irrigation at all. I have never seen a case of bichloride poisoning from this source. Even if some of it is absorbed into the circulation in septic cases, it will help rather than harm the patient.

As to Dr. Davidson's remarks, I have not observed so much danger of inducing abortion by automobiling, but I warn my patients to keep away from roller-skaters.

TETANUS.

(REPORT OF CASE—3 DAYS INCUBATION: RECOVERY.)

By M. Casper, Louisville.

Tetanus being a large subject, we will not attempt to consider it minutely, but will give some salient points in a general way.

Lockjaw, or tetanus is one of our oldest diseases. Hippocrates gave a fair account of it as encountered in the Grecian wars. It is also one of the most fatal of diseases; especially has it always been recognized as fatal in reverse proportion to length of incubation. Our own Dr. Yandell is credited with first calling attention to this fact. He places seven days as a sort of boundary line; all cases coming on prior to seven days after injury were quickly and certainly fatal, while cases with a longer incubation (and the longer the better the chance) being less severe and with chance of recovery. This rule still nearly always holds good as a working prognostical rule in spite of all treatment, new or otherwise.

Much laboratory work has been done on tetanus and some valuable information thus obtained. A bacillus was discovered by Kitasato in 1889 and conclusively proven to be the cause of tetanus, as it fulfilled all requirements of Koch's postulates. It has been found that the bacilli remain around the site of the wound and are not circulated through the body as once supposed; however, the toxins are the cause of the symptoms.

The toxins, or more correctly "exotoxins" are three distinct kinds and of two, much is known. The tetanospasmin is the chief offender; it gets into lymphatics whence it is carried to motor end plates and thence by the motor fibres to the cord and brain where it does such destructive work, causing the tetanus. Tetanolysin (another exotoxin) destroys the red cells, thus accounting for the excessive anemia in those cases which recover.

Symptoms and diagnosis are so well known that we will not go into them, except to call attention to the very great importance of an early diagnosis. We should always anticipate a possible attack of tetanus in every injury, especially those of punctured wounds around plantar surface of hands or feet, also gunshot wounds of these regions. Burns are also frequent means of introducing the tetanus bacilli. Much is to be gained if diagnosis is made in the pre-convulsive stage, and this is not difficult for the careful physician who sees his patients often and keeps in close touch with them and is ever alert to possible suspicious manifestations of tetanus.

TREATMENT.

Treatment, to be effective must be instituted early and vigorously. It is generally urged to use prophylactic precautions in all punctured wounds, and, in fact, all wounds that are contaminated with dirt and especially those of hands and feet. These wounds should be enlarged, incised, cleansed, and thoroughly cauterized, and treated openly. Antiseptics are useful, as iodine, carbolic acid, hydrogen-dioxide, and potassium permanganate. These remedies are all valuable if effectively applied, but we must get the medicine to the very bottom of the wound.

Tetanus bacilli spores are notorious for their powers of resistance to all chemicals, but being anaerobic, air prevents their growth; hence the importance of treating these wounds openly.

One of the most valuable methods of treatment for these wounds is frequent cleansing with hydrogen dioxide which is very effective against the tetanus bacillus. The antitetanic serum has not measured up to early expectations and claims, as a curative agent but it probably is very effective as a prophylactic and even valuable after the disease has started if taken in very large doses. In some 12,000 cases of injury treated in our office in twelve years, only a single case of tetanus has developed and that following a very extensive injury of leg (from knee to foot) with laceration of muscle, nerve, and even the bone was laid bare. This case was treated by an office colleague in the recognized manner. Tetanus developed on the third day and was of a malignant type, the patient dying in three days We have never used antitetanic serum in any of these cases as a pure prophylactic. However it is only fair to state we believe we should tell the patient of possibilities of lockjaw and put the question of serum up to him and let the responsibility of decision rest with him.

While laboratory reports seem to prove the value of antitetanic serum as a prophylactic, many notable instances may be cited to the contrary in practice. It was sent back as useless as a prophylactic in the Russo-Japanese war. Another thing against the routine use of antitetanic serum is the expensiveness of it. Wounds of the character prone to be followed by tetanus infection usually occur on the dirty hands or feet of those least able to afford the price of antitetanic serum.

In case of the slightest symptom or evidence of a tetanic infection, the antitetanic serum is strongly advocated and in very large doses, 10,000 to 20,000 units as initial dose and repeated every 6 hours if needed.

The mistake and failure of the serum may possibly be explained by small dosage and late usage; after case is under full swing and patient in tonic spasm. It is surely harmless even in large dosage, causing at the most some slight urticaria, or itching of the skin with temporary malaise, etc. Atropin is offered as a useful antidote to these symptoms. The method of use of the serum is also of extreme importance. It should be used freely around the site of the wound, along the course of nerve trunks, (in the spinal canal) and the ventricles of the brain. Even brain tissue stands the introduction of fluids as well as other tissue and in extreme cases the serum should be injected into the cerebral tissue.

Another remedy that seems to be of positive value as a curative agent is carbolic acid. It is used hypodermatically in 2 or 3 per cent. solutions beginning on 25 minims of solution every 2 or 3 hours. The injection should be increased in quantity and in grave cases as much solution as will represent a gram of phenol can be given in 24 hours. Always cautiously watching the urine for toxic effect.

Murphy has collected 190 cases treated by these phenol injections (called Baelli's method) and divided them into grades according to severity of case. Cases of mild infection and which sometimes get well spontaneously are not counted. Of the grave cases which usually have a mortality of 100 per cent. he reported 94 cases with 2 deaths, thus a reduction of mortality of 2.1 per cent. Of the very grave cases he finds 27 so treated with a mortality of 5 or 18.5 per cent. With such startling results as these, this treatment is deserving much consideration, especially as it does not interfere with serum or other forms of medication indicated. Bacelli instituted this treatment thinking that the tetanus bacillus itself traveled through the system but we know that the bacilli remain around the site of inoculation and are often able to find them in secretions of wound. So just how phenol influences these forces has not yet been explained.

Even though the wound had been opened, cauterized and treated properly, or not treated at all, when evidence of tetanus develops, the wound should be incised or if possible, excised, irrigated with antiseptic, and strong ones and then left open with frequent douching with hydrogen dioxide. Outside of attention to wound, serum and phenol injections, the rest of treatment is largely symptomatic though important.

First we must resist the deadly effects of the poison on the system. The modes of death which we must combat are given by Cheyne and Burghardt as asphyxia, due to either laryngeal or diaphragmatic spasm. Arrest of heart action due to spasm. Hyperpyrexia and the most frequent cause of death, asthma or profound exhaustion. In combating spasm, chloral and bromide are still routinely used by nearly all. When we consider that the most common cause of death is ultimate exhaustion, we had better call a halt on using these powerful depressors in the excessive dosage required to give relief and control the spasms. Intra-spinal injections of magnesia sulphate solution are being used more and more and with excellent results. It is given in 20 or 25 per cent. solutions, using 20 to 30 c.c. of this solution in the spinal canal after withdrawing a like amount of the fluid from the canal. This is to be repeated daily *pro re nata*. It has also been used in intra-muscular injections with good effect but less certainty of action. Morphine is used but is of doubtful utility.

Hyperpyrexia is a bad sign from a prognostic standpoint, and is difficult to control, it indicates envolvement of vital centres as a rule. Extra precautions as to quietude are to be taken. The question of nutrition is often puzzling to handle owing to difficulty of swallowing and the urgent need of nutriment because of the heavy drain on system. Liquid nourishment can usually be given. Ice cream has proven an excellent food for these cases but each case will be a law unto itself. Rectal alimentation may be used temporarily but patient becomes intolerant to prolonged use of food by this route.

In closing I would urge a wide dissemination of knowledge among laity regarding the seriousness of the class of wounds that cause lockjaw. Indeed much has already been accomplished through educational means and especially has the press performed valiant service to mankind, and posterity by their timely aid and certainly tetanus from the fatal toy pistol and blank cartridge has been almost completely wiped out. Physicians won't go amiss in laying great stress upon the character of the disease "lockjaw" to their pateints and be themselves always watchful and alert to detect the earliest symptom. Do better than that: treat wound so as to prevent any symptom.

CASE.

Miss A. B. M., age 17. She was a clerk and robust young lady with negative history and previous good health. Saw her first on Tuesday night, 36 hours after having stuck a nail in the sole of foot (near ball of large toe) through thin shoe sole (nail was new and not customary rusty one.

Examination revealed punctured wound of foot about 3-4 inch deep evidently caused by small sharp nail. Wound was cleansed and swabbed out with tr. iodine. Hot fomentation was ordered.

On 3rd day after injury was called to see her and found her complaining of rigidity of nape of neck, stiffness of jaw, and constriction of throat with difficult swallowing and altered speech. Temperature was normal as was pulse and wound looked to be in excellent condition. She was at once removed to the infirmary and given 11,000 units of antitetanic serum (all I could get at that time). Wound was incised and curetted under cocain anesthesia then swabbed out with phenol and tr. iodine. Wound left open and frequently cleansed with hydrogen dioxide. Hypodermics of 25 minimums of a 2 per cent. aqueous solution of phenol ordered every 2 hours. These injections were given along the course of the great sciatic nerve as was some of antitetanic serum.

Eight hours after, patient was found to be in pretty much the same condition with slight elevation of temperature and slight twisting of the mouth, also complained of some headache; 12,000 units of serum were injected at this time and other treatment continued and wound again swabbed out.

Twelve hours later or about 24 hours after first symptom patient was found to be better. Rigidity of neck had relaxed and only a soreness now remained in masseter muscles.

Difficulty of swallowing had been and still was most annoying symptom. Temperature still remained elevated and now 102° though patient was better. Another injection of 8,000 units (making 31,000) of serum was given. Phenol was continued, urine being closely watched.

Twelve hours later than this, 36 hours after onset of symptoms patient was found to be much better, all rigidity gone (only slight sore, ness remained). Temperature normal and patient able to swallow without discomfort. No serum was given now but 10,000 units was held in readiness to be immediately used should it be required during the next 48 hours.

However, patient steadily improved and was about well in four or five days.

She had an uticaria and some itching in skin from serum, which soon passed away. Also had one spot of irritation from a carbolic injection which caused a particle of tissue, not larger than a pea, to slough.

Foot healed immediately without slightest complaint. In spite of mildness of symptoms, (that is mild relatively to what tetanus usually is) patient had quite a marked anemia which was corrected in about a month with chalybeates.

DISCUSSION.

Thos. H. Mulvey: I saw the case referred to by Dr. Casper in his paper. It was a case of malignant tetanus, developing within three days after the injury, and death occurred within 72 hours, although at the first indication of tetanus, large doses of anti-tetanic serum were administered. I think the thorough cleansing of all wounds is much more efficient as a prophylactic measure against tetanus than is the administration of anti-tetanic serum.

Two interesting features of this case were, first, the way it developed, and, second, the nature of the wound. This young man, 18 years of age, was working in a grain elevator. One of the "feeders" became clogged and when he thrust his foot in to open it up, it got caught in one of these endless chains, with the result that the limb was almost entirely denuded from the knee down. The upper part was only skinned, but in the lower part the bone was exposed. However, the bone was not injured, none of the leaders were torn, and the blood supply was apparently perfect. In other words, it was a case that, under ordinary circumstances, would have made a good recovery.

As to the sterilization of the wound, it may be that, owing to the extensive laceration present, we were not able to get into all of the deep parts thoroughly, although the cleansing was done under an anesthetic and all of the parts were treated as thoroughly as possible with lysol, green soap and tincture of iodin.

One question I should like to hear discussed is, whether, in a case of this kind, we would be justified in amputating the limb to save the patient's life. In other words, would we be justified in amputating the limb in order to remove the source of infection, either before tetanus had developed, or immediately upon the appearance of the first symptoms of the trouble. Furthermore, if we should amputate and the patient should get well, what would be the attitude of the courts with respect to the question of malpractice?

The pathology of tetanus is not clear and the treatment is uncertain; the serum is not at all effective in some cases, where there is a virulent infection.

W. C. Dugan: I have never succeeded in saving the life of a patient that had tetanus. I am inclined to doubt Dr. Casper's diagnosis in his case; I believe it was a case of tetany rather than tetanus. Of course, if the bacteriologist reports the findings of the bacilli of tetanus, it will establish the diagnosis.

I have seen a relatively large number of cases of tetanus that developed within ten days after the receipt of the injury, and I have never seen one recover; they have all died very promptly. Recently I saw a young man who was brought to this city, suffering from tetanus which had developed on the fourth day after the injury. We gave him double doses of anti-tetanic serum at intervals of six hours, intravenously. We did not open up the dura and inject it into the subdural space, which is probably the most effective way of administering the serum in these extreme cases. In spite of all we could do, this young man died very promptly.

I was glad to hear the essayist call attention to the fact that in many cases the first evidence of tetanus is manifested in the back of the neck. In the malignant cases of tetanus that have come under my observation, the trouble was not in the jaw, but was referred to the back of the neck. The first symptoms the patient complained of was an inability to lift the head, being similar in that respect to cerebrospinal meningitis. In several of my cases the patient died before the jaws became really locked.

I differ with the last speaker in regard to the prophylactic value of antitetanic serum. In my opinion, the essayist struck the keynote of the problem when he said that we must educate the public with respect to the importance of prophylactic measures in the presence of all wounds. We do not know which wound is infected with the bacilli of tetanus and which is not. The essayist said that the best prophylactic was the thorough cleansing of all wounds. However, we have all seen individuals develop tetanus with the wound in apparently perfect condition. It is not a true septic condition that we have to deal with, but a toxemia entirely different from the generally accepted idea of an infection produced by pus-forming bacilli. Every wound that is sustained about a garden, or public thoroughfares, etc., should be regarded as a suspicious one and the patient given a prophylactic dose of anti-tetanic serum. I believe the serum is as certain a prophylactic measure as it is an apparent failure as a curative agent.

A. D. Willmoth: The gentleman who opened the discussion asked two questions; first, if a primary amputation would be justified in all suspicious wounds, and, second, if an amputation would be justifiable after tetanus had developed. Personally, I do not believe the surgeon would be justified in doing an amputation primarily for the reason that the cases of tetanus that develop are so few in comparison to the number of suspicious wounds we see, that such procedure would involve a needless sacrifice of limbs. As to the second question, I do not believe amputation would do any good after tetanus had developed. We are not dealing with an infection restricted to the site of the wound, but with a toxine that has already been carried into the brain and nervous system, and the shock incident to anesthesia and amputation would more than offset any good that might be accomplished. We can secure practically the same results by following the plan outlined by the essayist; namely, by opening up the wound, exciting it if possible, and thoroughly cauterizing it with some cauterizing agent that will penetrate deep into the tissues. Carbolic acid is superficial; it coagulates the albumen and then stops. What we need is an agent like nitric acid that will destroy the tissues and in that way penetrate to the infected area.

Dr. Dugan made a most excellent point in his discussion; namely, that a wound may be infected with the bacilli of tetanus and still be otherwise a perfectly clean wound. The laity, as well as a good many doctors, seem to have the impression that if a wound infected with tetanus be kept open, the disease will not develop. The result is that if tetanus develops following a punctured wound or a compound fracture, the doctor treating the case is apt to be made the defendant in a suit for malpractice. The idea has prevailed from time immemorial that if a wound is kept open, tetanus will not develop. That is not true. We may have a wide open wound infected with pyogenic organisms which will so completely absorb the oxygen that tetanus may develop even in a wound of this character, because the tetanus bacilli are so deep in the tissues that the oxygen does not get to them. This is a very delicate medico-legal point and we should be careful, therefore, how we criticise a brother practitioner if a case of tetanus develops from a wound that is kept open.

As to the anti-tetanic serum, I have given it a number of times, but in acute cases, where the wound is in a part of the body that is extremely vascular and well supplied with nerves, the toxin is carried so rapidly into the central nervous system that the serum can do no good. It is an excellent prophylactic agent but of very little value as a cure.

There is one excellent prophylactic agent that has not been mentioned to-night; it is simple and one about which the laity as well as the doctors should be informed. It has been observed, for many years, that individuals in the neighborhood of large salt works very rarely develop tetanus following punctured wounds of the hands or feet. Some two years ago, Vierhoff, in a review of various antiseptic agents, stated that normal saline solution was the most powerful of any, for the reason that it penetrated deeply and was absorbed by the structures and cells. If he be correct, that would explain the many cases that have been reported of punctured wounds of the hands and feet in the various salt-works in which tetanus did not develop. Everything in the neighborhood of these salt-works is laden with salt; even the ground is impregnated with it, and this probably explains why tetanus is a rare occurrence. A physician who is located near one of the largest of these plants in Michigan told me that his treatment of punctured wounds of the feet consisted solely in having the patient place the foot in a bucket of hot salt water, using the water from the salt wells after it had been boiled down to concentration, and keeping it there for a number of hours. Some months after this conversation I read Vierhoff's article, in which he stated that saline solution is a most wonderful antiseptic agent, and I think this is something which the laity as well as the doctors should know.

M. Casper:, (Closing): I wish to thank the gentlemen for their discussion of the paper.

In regard to Dr. Mulvey's question as to whether or not amputation is justifiable in order to save the patient's life, I believe that, if I had a badly lacerated hand or foot, and tetanus should develop, I would have it amputated, because where there is extensive laceration and it is impossible to excise the wound, the tetanus bacilli remain about the site of inocculation, and by amputation we would get rid of them. Of course, the toxine is what does the damage, but it is these organisms that generate the toxin and by eliminating them we prevent the formation of any more toxin.

Dr. Dugan's remarks in regard to the diagnosis in the case reported are certainly very pertinent. Of course I have no way of telling positively whether or not this was a case of tetanus. I gave you the symptoms as I found them and I certainly thought it was a case of tetanus. No bacteriological examination was made. However, it is a fact that we do not always find tetanus bacilli upon bacteriological examination. There was no infection about the wound, no secretions of any kind, and there was no chance of getting a bacteriological examination that could be relied upon. This patient had always been in perfect health, had never had a doctor, and was not nervous nor hysterical. However, the rigidity of the neck and the elevation of temperature, (going as high as 102° F.) could hardly be accounted for by hysteria. The first time I saw her she had no elevation of temperature, but that is true in the majority of cases of tetanus. Many of these patients will go on to the point of death before having any elevation of temperature. Sometimes just before death, the temperature will go very high, but that is not the rule by any means. Another very marked symptom in this patient was difficulty in swallowing. She could hardly swallow even fluids, and spoke with a great deal of difficulty. Her voice was considerably altered.

In regard to the intravenous injection of anti-tetanic serum, it has been shown that the toxin is not present in the arterial circulation. Therefore, the intravenous injection of anti-tetanic serum would be irrational. It has been shown conclusively that the toxin travels through the lymphatics and the motor nerves. It was formerly believed that the toxin traveled along all the nerves, but it has now been shown that they travel exclusively along the motor nerve trunks and reach the brain in this way. A good many cases have been reported in which good results were obtained from the injection of the serum directly into the fourth ventricle, which is not a very difficult thing to do. It is also very effective when injected into the intraspinal canal. If the patient had become worse after the first injection, I should have given the next dose into the intraspinal canal.

We have a great deal to learn about anti-tetanic serum. Many contradictory reports have been made with respect to its use, but it seems to be generally accepted now that it is not as effective a curative agent as it is a prophylactic measure. It is surprising how many doctors insist upon its use as a routine prophylactic measure. One doctor administers it in all cases of burns. It has been shown that many burns, especially where they are very extensive, are followed by tetanus, usually of a very severe type.

This is the first case of tetanus in which I have used carbolic acid, but my report is no more surprising than 190 cases cited my Murphy, of Chicago, and others. One doctor in Ohio reports three cases, one developing on the fourth day, another on the sixth day and another on the seventh day, with recovery in each instance. He relied principally on large doses of anti-tetanic serum and thorough and extensive excision of the wound. Personally, I believe the carbolic acid injection deserves as much credit as anything else in the case I reported. In many cases, in spite of the administration of anti-tetanic serum, the patient goes from bad to worse and finally dies, and I believe carbolic acid treatment should be employed in all cases of tetanus insofar as it does not interfere with any other form of treatment.

A CONTRIBUTION TO THE PATHOGENY OF SPASTIC RIGIDITY OF CHILDHOOD.*

By La Salle Archambault, New York,

and

Leon K. Baldauf, Louisville.

It is not our purpose to enter into the discussion of the pathogenesis of all forms of rigidity occurring in infancy and childhood; the task would far exceed our resources and the question is too complex to be considered with any degree of fairness in this brief communication. The main object we have in mind is, to call further attention to the inadequacy of our actual knowledge of infantile rigidity and to the inexactness of our classification of the various spasmodic affections met with in infancy and early childhood. It is more particularly the anatomic facts underlying the close analogy which tetany bears, clinically, to the various forms of birth palsies that we desire to investigate. That this analogy is very great, there can be no doubt, if one is to judge by the frequency with which cases of so-called tetany have proved to be nothing less than some form of cerebral palsy of childhood and under which head we include, for the sake of convenience, Little's disease, spastic diplegia, chronic internal hydrocephalus, serous meningitis, etc., *i. e.:* all forms of cerebral lesion encountered in infants and young children and which have as main clinical manifestation—spastic rigidity of the extremities.

In other words, what is the anatomic substratum of the clinical symptom: spastic rigidity? Is this the main or only external expression of any diseased state, or merely symptomatic of an otherwise clearly-appreciable pathologic entity?

But, in the first place, what is understood by tetany? "An affection characterized by peculiar bilateral tonic spasms of the extremities, either paroxysmal or continued" (Osler). The well known fact that the disease occurs under very different conditions and with all degrees in the completeness and severity of its symptomatic picture, would easily induce one to regard tetany more as a symptom-complex than as a distinct clinical entity; which view moreover would be more in harmony with what we actually know of its pathological anatomy, as we shall see later. It may well be however that tetany does possess a perfect autonomy; a supposition which would be all the more acceptable if the term tetany were applied only to the complete forms described by Escherich.

But then true tetany is an extremely rare disease, at least in this country. It is more common to see incomplete types of the affection, cases in which a few of the symptoms only are present, and not infrequently, some in which one of the so-called characteristic manifestations of tetany constitutes the entire clinical picture. The actual tendency however is not to regard such conditions (isolated carpo-pedal spasm for example) as instances of true tetany, but rather as symptoms of some other disease. It was, of course, only to the ill-constituted or atypical forms that we referred, when speaking of the difficulties which the differential diagnosis between cerebral palsy and tetany may present.

Aside from the multiplicity of its etiologic factors and the rarity with which it assumes the classic type, tetany still presents another peculiarity which would tend to minimize its chances of obtaining recognition as a distinct entity, and that is its occurrence, either fully or partially constituted, in conjunction with or as a complication of a number of other nervous diseases: Basedow's disease, cerebral and cerebellar tumor, syringomyelia, hysteria, epilepsy, etc.

Finally, other rare types of spasmodic affections in children have been recently described, which are closely analogous to tetany such as the *Myotone spastique persistante de Herschsinger*, or *Pseudo-tetanus of Eschherich*, the underlying anatomic lesion of which is the *meningite cerebrospinale seche.*

Neither of the cases about to be reported was definitely regarded as being tetany, but such was the diagnosis originally proposed in both: later, one case (cerebral sclerosis) was regarded as an instance of cerebral diplegia and the other (chronic internal hydrocephalus) considered to be cerebral tumor. In their clinical manifestations the two cases resembled each other very closely. Before giving a detailed description of the interesting histologic changes observed in the central nervous organs of these cases, it would be well to briefly consider, in the first place, the status of our knowledge concerning the pathologic anatomy of tetany.

The many observers who have seriously studied this question have not all reached the same conclusions, but they may be conveniently divided into two main groups:

(*a*) To the first group belong those (Schultze, Berger, Weigert, Loos, etc.) who, despite most scrupulous technique and careful microscopic study, have failed to find any appreciable changes in the central nervous system, and for whom, therefore, the patho-

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*Published in Albany Medical Annals, January 1908.

logic anatomy of tetany remains entirely negative.

(*b*) Forming the second group, are a number of authors whose results have been positive, but to what limited extent these results are concordant, will presently be seen.

As regards first, macroscopic changes, it must be said that in those cases in which gross anatomic lesions did exist, they were either associated with some affection which tetany simply complicated, or else, were so combined or distributed as to render it impossible to isolate those underlying the manifestations of tetany.

Schultze found a patch of sclerosis in the upper cervical region and Traina pseudosyringomyelia cavities in the cervical cord.

Koster described blood coagula upon the cauda equina, the cervical nerve-roots and along the course of the sciatic nerve.

Several observers have found, in cases of tetany, a slight serous infiltration of the membranes of the brain and spinal cord and even of the parenchyma of these organs, or, in other instances, a slight hyperemia of the same; all of which changes, however, practically remain within the limits of physiological reaction.

When it comes to the question of the histological changes observed in tetany, however, we are much better informed, as we possess more abundant data from which more definite notions can be derived. There have been numerous contributions to this particular chapter of pathology within the last decade, but we can only briefly analyse a few of the more important ones.

Langhans noted periarteritis and periphlebitis about the white commissure and anterior horns of the cervical enlargement of the spinal cord.

Pick, in the case of a young epileptic who developed typical tetany, found calcification of the smaller blood-vessels and fine arterioles especially of the centrum ovale and cerebellum. He is of the opinion that the narrowing and partial obliteration of the lumen of numerous blood vessels leads to the development of symptomatic tetany. A similar postmortem finding was observed in a woman who developed tetany secondarily to an operation for cataract.

Weiss examined the spinal cord of a child who had presented marked symptoms of tetany during three months following removal of the thyroid body. He found decided changes in the gray matter of the cervical cord. The ganglion-cells in great numbers were swollen and their nuclei displaced towards the periphery and often distinctly flattened. Vacuoles in both cell and cell-process were commonly observed. A number of cells were atrophied and their axones retracted within the cell-body. Aside from these changes which were especially prominent in the lateral group of the seventh and eighth cervical segments, Weiss also found distinct spindle-shaped expansions of the axis-cylinder processes situated both in the anterior nerve-roots and in the central gray matter.

Changes similar to those described by Weiss have been observed by Bonome and Cervesato, Kirchgaesser and Katz in ordinary cases of tetany in children.

Bonome and Cervesato found in two cases of moderate intestinal disturbance, in which typical tetany developed only during the few days preceding death, very distinct changes in the gray matter of the cord. There was an appreciable atrophy of many ganglion-cells especially those of the mesial group; likewise atrophy with occasional varicose swelling of the nerve-fibres situated in the gray matter. In addition to these changes, there was noted a distinct proliferation of the neuroglia, which newly-formed tissue was often the seat of oedema and softening and consequent disintegration and cavity-formation; more especially were these irregular spaces observed in the gray matter. The authors regard the whole process as one closely analogous to poliomyelitis. The absence of paralysis in these cases, they attribute to the integrity of the lateral cell-groups of the anterior horns.

Katz noted in the case of a child, who, at the time of death, presented typical manifestations of tetany: cloudy swelling of the ganglion-cells of the anterior horns. The cells were granular in appearance and their nuclei indistinct. Furthermore, there existed the most extreme engorgement of the blood vessels about the cervical enlargement.

Kirchgaesser studied, with the aid of Marchi's method, the changes in the spinal cord in two cases of tetany in children and observed well-marked changes in the intramedullary segment of the anterior and posterior spinal nerveroots, more particularly of the cervical and lumbar enlargements. In the anterior nerve-roots, the changes involved the entire axone from its origin in the multipolar nerve-cell. Similar alterations existed in the radicular filaments of the accessorius and hypoglossus, and even in the fasciculi solitarii and in the anterior commissure of the cord. The smaller blood vessels and capillaries were uncommonly distended but without appreciable changes in their walls. Absolutely similar changes were observed by Kirchgaesser in a case of (*a*) laryngospasm with facial phenomenon and in a case of (*b*) persistent spasm of the entire musculature without the characteristic attitude of the hands or other of the latent symptoms of the disease.

Ferranini and Rossolimo report the findings in cases of tetany associated with gastric dilatation. In one of the cases, a patient of twenty-three years of age, gastric disturbances had existed for over twelve years. The manifestations of tetany appeared thirty-three hours antemortem, and rapidly involved, with growing severity, the whole musculature of the body. At the autopsy, a distinct venous hyperemia of the pia as well as of the actual nervous parenchyma was macroscopically appreciable in both brain and spinal cord. Microscopically, well-marked changes were found more particularly in the medulla and in the cervical cord. Numerous nerve-cells were altered in various ways; frequently they were swollen and their pericellular spaces extensively dilated. These changes were especially prominent in the domain of the vesicular column of Clarke. Thickening of the cell-membrane and various stages of chromatolysis were commonly observed. Vacuolation of the cell-body was likewise fairly common. The nucleus itself was almost invariably deformed, decidedly enlarged, flattened against the periphery of the cell-body and now and then almost extruded from it. The cell-processes were proportionately thinned and often sharply bent upon themselves, or else presented varicose enlargements. No appreciable alterations were to be seen in the nerve-fibres.

Rossolimo refers to the changes observed in a subject, forty-three years of age, who had suffered from gastric disorders during the last fifteen years of life and in whom the most typical syndrome of tetany developed a few days antemortem. Aside from slight changes in the muscles, histologic examination revealed the presence of spindle-shaped swellings in the course of the axis-cylinder processes both in the anterior nerve-roots and in the peripheral nerves. There was also to be seen a varying degree of chromatolysis about the ganglion cells of the spinal cord in the vicinity of which the blood vessels were more often found markedly congested. The majority of nerve-cells however were relatively intact.

Peters in his recent monograph on the pathogenesis of the classic manifestations of tetany, gives a very exhaustive description of the disease, with the following conclusions:

1. Tetany is not a functional but an organic disease.

2. Its anatomic substratum is essentially constituted by an inflammation of the extra-dural connective tissue, which extending into the intervertebral foramina involves the dorsal nerve-roots together with their attached ganglia, leading thus to the development of (*a*) a neuritis interstitialis, (*b*) a gangliitis.

3. The primary pachymeningitis externa is characterized by the presence of: round-cell infiltrations, disseminated patches of epidural fibrinous or gelatinous exudate, hemorrhages along blood vessels whose walls are diseased. The hemorrhages are found more particularly in the intervertebral patches. The pachymeningitic alterations, although present in different places, are most marked and constant about the nerve-roots of the seventh and eighth cervical, the lower lumbar and upper sacral segments.

4. The neuritis interstitialis involves the motor as well as the sensory nerve-roots but is absolutely limited to their extra-dural segment. The peripheral nerves are free. Both the intra-dural and intra-medullary portions of the nerve-root are likewise usually intact; only occasionally do they present evidence of secondary degeneration.

5. The gangliitis manifests itself by (*a*) proliferation of the intracapsular endothelium with marginal vacuolization, (*b*) round-cell and leucocytic infiltration of the stroma between the nerve-cells which are thereby compressed, (*c*) degenerative changes of the cell-protoplasm (disintegration, karyolysis, etc.).

The author remarks that endothelial proliferation and protoplasmic cellular alterations are not peculiar to tetany, occurring in other affections which are characterized by the presence of contractures. But, the mode of development of these processes, especially the interstitial infiltration, does constitute a feature peculiar to tetany. The pachymeningitis externa is likewise characteristic of this disease. It was observed in all the cases, and furthermore, it involved only those nerve-roots whose area of peripheral distribution corresponded to the seat of clinical manifestations (spasms, contractures, etc.) and respected those corresponding to the peripheral regions which had remained free during life.

6. The more intense the pachymeningitis, the more severe the muscular contractures and the shorter the intervals between them; so that in very pronounced cases, the lesions may determine permanent tetanic manifestations in the affected limbs.

In three of the author's cases, certain peculiarities have seemed of particular interest to us for purposes of later comparison and we therefore make note of them in this connection.

In Case IV the author found: slight sclerosis of the brain, marked dilatation of the ventricles especially the fourth. Histologically: cellular agglomerations consisting for the most part of multinuclear leucocytes, were to be seen between normal cells and fibres and infiltrating both the gray and the white matter in the cord as well as in the brain. The author designates this process by the term Encephalitis interstitialis (leutica?).

In Case V chronic hydrocephalus of marked degree. A cross-section through the lower medulla showed distended capillaries and hemorrhages between the ganglion-cells of the subventricular nuclear collections. Accumulations of leucocytes in the perivascular spaces. These lesions were very marked and suggestive of encephalitis interstitialis.

In Case VII, marked congestion and slight oedema of brain, small punctiform extravasations in the course of the arteria spinalis anterior. In the posterior horns and in the intra-medullary courses of the posterior nerve-roots, degenerated areas weer to be seen. Small round-cell and leucocytic infilarations were found between the individual fibres of the motor nerve-roots.

Thus far, then, the histologic changes observed in the central nervous system by different authors may be summarized as follows:

Lesions which, in the first place, are essentially confined to the spinal cord and which involve more particularly the cervical and lumbar enlargements.

Lesions which vary in intensity all the way from simple engorgement of the blood vessels of the pia and central gray matter of the spinal cord (occasionally extending to the adjoining portion of the medulla oblongata), to well-marked alterations of the ganglionic nerve-cells in the gray matter and more particularly to those of the motor groups; and changes in the nerve-fibres, likewise most pronounced in those fibres coursing through the central gray matter and in the intra and extramedullary segments of the spinal nerve roots.

The ganglionic nerve-cells exhibited a most variable degree of chromatolysis, which, in certain instances, had gone so far as to lead to total disappearance of the cell. The nerve-fibres showed swelling of their axis-cylinders and loss, in greater or lesser amounts, of their myelin substance.

In addition to the changes included in the above synopsis and which practically embodies the joint-results of the great majority of observers who have written on this subject, there still remains to mention the lesions described by Peters (*i. e.* pachymeningitis, neuritis and ganglitis) who, as we heve just seen, holds entirely different views from the rest as regards the pathogeny of tetanic manifestations; since he places the causative lesions outside of the dura and maintains that the central nervous organs themselves and the leptomeninges are entirely free.

All these facts, acquired in recent years and under all the favorable circumstances which our modern methods of technique and investigation ensure, deserve, certainly, to be carefully recorded, but nevertheless, they must be weighed even more carefully, accepted with caution and even with certain restrictions. In the first place, it must be stated, that as far as alterations in the nerve-roots are concerned, Zappert observed destruction of nerve-fibres within the spinal nerve-roots in most children dying during the first year, although there had been clinically no symptoms whatever of nervous disorder.

It wil be remembered also, that in a certain number of these cases, the manifestations of tetany were either associated with other conditions (epilepsy in one case reported by Pick), followed extirpation of the thyroid (probably of the para-thyroid as well) body, or else, developed antemortem, or very late, at least, in the course of some chronic affection of many years' standing and one which had seriously compromised the general nutritional integrity of the individual.

It would seem logical, in this connection, to admit that the lesions observed in the central nervous organs in the last category of cases (*i. e.* in cases of tetany following thyroid extirpation or prolonged disorders of nutrition), might be compared to those found in the spinal cord in a good number of cases of hæmic diseases, as in pernicious anemia, for instance. In other words, they might be regarded as the expression of nutritional disturbances, resulting, either from the loss or absence of some important and yet unknown element concerned in the neutralization of certain toxic principles elaborated in the course of metabolism (as in the case of parathyroidectomy), or from an insufficient elaboration or production of active cells, an adequate supply of which is the indispensable prerequisite to the maintenance of nutritional equilibrium (a deficiency realized in case of disease of the haematopoietic organs).

In tetany, it is true, the lesions are to be found more particularly in the central gray matter, it is the ganglionic nerve-cell of the anterior horn which suffers most or bears the brunt of the invasion; whereas in pernicious anemia and kindred affections, it is a sclerosis of the white columns which is most commonly observed. But there is here, merely the question of selective action of underlying toxic principles and we are of the opinion, that the prime factor in producing both categories of changes, is unquestionably constituted by some toxic agent freely circulating in the system.

It must be said, moreover, that, cellular changes absolutely analogous to those described in connection with tetany, have been observed in different pathologic conditions which affect, similarly to pernicious anemia, the general nutrition, and without having given rise to any of the clinical manifestations characteristic of tetany; in such conditions for instance as Addison's disease, operative myxoedema, lesions of the pancreas, as well as in the various forms of auto-intoxication, etc. Uræmia, acute yellow atrophy, intestinal auto-intoxication, etc. Uræmia is mentioned by Osler, as one of the conditions with which tetany may be associated, and it is a question, in our mind, if those cases of tetany which develop in the course of gestation are not of the same origin.

Then again, aside from these vitiated nutritional states, in which the cellular changes are attributed to the noxious influence of some toxic principle elaborated within the system, there is still a series of poisons belonging to different classes, which are capable of inducing similar changes within the central gray matter of the spinal cord.

(1) Toxins derived from suppurative or necrotic processes. Blood and cardiac poisons.

This class produces the cellular changes known as tigrolysis and also swelling of the cell-body and varicosities in the course of the cell-processes.

(2) Among mineral poisons, the most prone to determine cellular alterations are: arsenic, phosphorous, potassium chlorate, antimony, chlorhydric acid. It is to be noted that phosphorous is mentioned by Oppenheim, as the mineral poison the most frequently concerned in the production of tetany.

(3) Of the organic poisons, alcohol is by far the most important. The cellular changes occurring in chronic alcoholism and delirium tremens have been abundantly described. The alkaloids, more particularly strychnine, morphine and cocaine are susceptible of inducing analogous changes.

It may be mentioned that alcohol and morphia are recognized etiologic factors in the determination of tetany (Osler).

(4) Toxins associated with the various infectious processes: Diphtheria, tetanus, cholera, etc.

In children the influence of the acute infectious diseases in determining tetany is well recognized, and cholera is mentioned by numerous authors as one of the infections most commonly associated with tetany.

As will be readily seen, the foregoing tabulation of the various agents of a toxic nature (whether bacterial, mineral, organic or derived from the products of defective metabolism) capable of inducing cellular alterations in the spinal cord, practically includes all the factors actually recognized as possible causes of tetany. Reasoning from this fact, it would seem logical to maintain that the cell-changes described in connection with tetany by different authors, and which we have in the main incorporated in the beginning of this article, cannot be regarded as constituting, properly speaking, the anatomic substratum of tetany. It would be more accurate, perhaps, to consider them simply as the expression of the reaction determined in the nervous parenchyma by a sufficient grade of toxemia, whatever its origin or character.

The importance of this latter consideration will become more apparent, when, after describing the findings in our actual observations, we come to the discussion of the pathogeny of the symptoms to which they gave rise,

Neither of the cases which form the ground work of this contribution have we had the occasion of studying clinically; we can, therefore, only transcribe the main points in the clinical histories as they appear in the hospital records. But being reliably informed concerning the difficulties which diagnosis offered in both these cases, and the examination of the central nervous organs having moreover been entrusted to us, the findings appeared sufficiently interesting to merit publication.

Case I. B. S., age one year. Female.

CLINICAL HISTORY.

Family History.—Mother apparently epileptic, gives history of fainting spells with loss of consciousness. During a period of three days and coming on, on the sixth day after birth of her child, the mother had convulsions during which she bit her tongue. Since birth, which was protracted but not instrumental, the child presented the following condition: Hands contracted and head drawn back. The child had always acted queerly not noticing anything about her and apparently not knowing her mother. Began to have convulsions at three months, numbering from ten to twelve in twenty-four hours; they became much more severe during the last week of life. At the same time, it was noticed that one foot was turned in. The convulsions were characterized as follows: The limbs of the left side were drawn up, i. e., flexed and twisted slightly, whereas the right arm and leg would become extended and stiff.

At other times, i.e., in the intervals between these convulsive attacks, the child would lie with the arms flexed at elbow and with both fists clenched, the thumb being slightly held in palm of hand by the other fingers flexed strongly upon it. The legs would be fully extended with slight adduction of left leg and foot, and the toes changing position almost constantly, but those of left foot generally held in a state of plantar flexion. Head drawn slightly backward and face turned sharply to the left; neck moderately stiffened; eyes rolling about from side to side and often upwards as well; pupils equal and contracted; child apparently blind. Anterior fontanelle open, posterior not completely closed. Slight motion still present at lambdoid suture. Palate rather high. On the under surface of anterior part of tongue and extending also over floor of mouth is a shallow ulcer about one centimeter in diameter. On lower lip of child considerable fine pigmented hair—on chin fine downy colorless hair.

Abdomen distended, soft, edge of liver felt about one centimeter below costal margin.

Later Notes.—Arm and legs held stiffly, passive motion most difficult especially at elbows and knees; resistance slightly greater on right side. Left arm and leg on measurement are slightly smaller than right. Impossible to straighten fingers and toes.

Spasm of muscle less than on entrance. Child apparently blind. No Babinski reflex on either side. Head symmetrical.

Notes at time of autopsy, October 17, 1905, taken from official records of the Bender Laboratory, read as follows:

Autopsy Record, 0-942. Autopsy by Dr. Pearce, October 17, 1905, at Child's Hospital. Brain only removed.

Clinical Diagnosis.—Tumor of brain; Broncho-pneumonia.

Head.—Of average size. On stripping scalp the anterior fontanelle is slightly open, irregular in shape and tense but not bulging. Posterior fontanelle is closed. The bones of the skull are in apposition except at anterior fontanelle but are not united; on pressure they can be readily moved one upon the other. On removing calvarium the dura is seen to be tense and fluctuant; on section a large amount of clear fluid escapes.

Brain.—Convolutions are flattened. Blood vessels are prominent and deeply congested. Both hemispheres are fluctuant and on attempting to remove the brain from the cranial cavity a rupture along the inner aspect of the left hemisphere occurred with escape of a large amount of clear fluid. Each hemisphere is found to be transformed into a sac lined by smooth greyish-white membrane in which blood vessels are very prominent. The cortex is greatly thinned varying in thickness from two to six millimeters except at the most anterior portion of the frontal lobes where it was about a centimeter in thickness. The dilation of the ventricles is extreme. The third ventricle is greatly dilated as is also the *iter a tertio ad quartum ventriculum.* The fourth ventricle is slightly dilated; this dilatation extending somewhat laterally. The prominence is due in part to the atrophy of the adjacent structures. Cerebellum shows no changes. The choroid plexus is slightly congested. Owing to disturbances of relations brought about in removing the brain it is impossible to examine the communications between the ventricles other than those noted above.

Anatomical Diagnosis.—Congenital internal hydrocephalus.

The above description of the macroscopic appearance of the brain might be rendered more complete by inserting a few additional remarks. There are patches of leptomeningitis (thickening and opacity of the membranes) over the occipital pole on all its surfaces and in the fossa Sylvii in the right hemisphere, and over the mesial surface as well as along the inferior border of the occipital lobe in the left hemisphere.

There is evidence of microgyria in various places, but it is most distinct about the motor convulsions of the right hemisphere, the inferior frontal and the inferior parietal convolutions of the left hemisphere. Patches of ventricular meningitis, most marked over the ventricular surface of the caudate nucleus are distinctly to be seen in both hemispheres, but the lesions are far more extensive in the left lateral ventricle, where a relatively thick, creamy-white, pulpy exudate covers the seemingly enlarged head of the caudate nucleus, spreading out irregularly from that point over the outer wall of the ventricle and into its anterior cornu, and invading with more or less difficulty the proximal surface of the parietal segment of the lateral ventricle. The exudate is thickest over the most mesial portion of the caudate nucleus along the stria cornea, and in the vicinity of the foramen of Monro where it partly covers over the larger ventricular blood vessels.

The brain-stem presented a very peculiar aspect, there being, in the first place, a decided asymmetry between the two lateral halves of its various segments (peduncle, pons and medulla). This portion of the brain having been separated from the hemispheres at the level of the anterior corpora quadrigemina and nuclei rubri, *i. e.*, well up in the course of the crura cerebri (despite the unfavorable condition of affairs resulting from the unavoidable tear at the time of removal of the brain as well as from subsequent handling and faulty positions in jars, the hemispheres having fallen completely asunder), and the part being held vertically, there is noticed a decided deflection or inclination of the brain-stem to one side, seemingly due to atrophy of this side; this atrophy affecting about equally the various segments from the subthalmic region to the motor decussation. Not only is one lateral half shorter, but also decidedly lesser, in size; the disparity in the volume of both halves of the brain-stem being most manifest.

The anterior median fissure of the cord continues upward uninterruptedly over the pons and then becomes lost in the interpeduncular space. Of the anterior pyramids, there is barely a trace; the inferior olives being very prominent although of very unequal size, and bulging on either side of the median fissure, where they truly form the ventral boundary and substance of the medulla. It is in the region of the pons that the greatest asymmetry appears. One has the impression that the superficial transverse pontine fibres are wanting on one side; which would explain the existence of a deep fissure over the ventral surface of this region and contribute much to render one lateral half of the pons both shorter and smaller.

The Fourth Ventricle.—The floor of the fourth ventricle presents nothing particularly atypical, save that its lateral angles are pressed outward and forward, whereby the ventricular floor is much more plane than in the normal state. The cavity of the fourth ventricle as a whole, moreover, is considerably dilated, much more so than is usually seen even in cases of marked hydrocephalus.

Rigorously serial sections of the entire brain-stem; portions of the cortex of the ascending central convolutions, the para-central lobule, the calcarine region and the cerebellum; as well as portions of the ventricular surface of the caudate nucleus at the level of the ependymal lesions, together with the optic nerves, have been submitted to microscopic study. The cord, as already said, had not been removed. Staining methods employed: Weigert and Pal for myelin-sheaths; Paleochineal; Van Gieson, hematoxylin-eosin, and carmin.

Description of Histologic Findings.—At the level of the peduncle and upper segment of the pons Varolii (Pl. I, Fig 1), microscopic examination reveals the well-marked atrophy of one lateral half of this portion of the brain-stem. Both fasciculi longitudinales posteriores, both bundles of radicular trochlearis filiaments, both brachia conjunctiva and both masses of fibres forming the crura cerebri (Fusse pedunculi) are present, but aside from the pyramidal bundles, whose relative proportions, difference of topographic distribution resulting from the absence of certain systems of fibres render unascertainable, all the above-named tracts are decidedly atrophic on one side; the disproportion being most manifest. There is but one mesial fillet and that on the atrophic side, where, on the other hand, only a trace of the lateral fillet exists; whereas on the healthier side, one sees what appears to be a perfectly typical nucleus of the lateral fillet, there being no indication whatever of a mesial fillet. There exists but one corpus quadrigeminum posterius, which is situated on the atrophic side, and but one set of superficial and deep transverse pontine fibres; their corresponding territory on the opposite side cannot even be said to be occupied by reactionless, non-staining degenerated fibres. The result of this anomaly is, that as we consider successively lower cross-sections of the pons, one pyramid, or rather one mass of fibres including the motor pyramidal fibres and the cortico-cerebellar tract, appears free at the ventral border, whereas its fellow follows the usual course between the two sets or layers of transverse pontine fibres; being covered ventro-laterally by coarse bundles, either transversely or vertically directed, and which evidently belong to the brachium pontis. These fibres cease abruptly at the anterior extremity of the median raphe. At lower levels, a fair number of these fibres pass dorsally to the free mass or corticifugal fibres of the opposing side, thus constituting, at least apparently, what might be called a deep set of transverse pontine fibres for the atrophic hemi-pons.

Small lesions are present along the ventral periphery (occlusion of vessels, infiltration, corpora granulosa), sink in behind the pyramids; they also exist over the ventricular floor and angles and even in the central griseum, extending along the raphe from the ventricular floor into the deeper structures of the tegmentum.

The floor and lateral recesses of the fourth ventricle present a good number of infoldings, and the medullary vela are markedly thinned, showing to what extent ventricular dilatation has occurred as well as the results of chronic inflammation (determination of adherent surfaces in pockets of main sac). An interesting anatomic detail at this level, is the unusual sharpness of outline of the fasciculus predorsalis of Tschermak.

In the lower region of the pons, the fibres of the brachium pontis, which (at high levels), were confined to one lateral half of the organ, embracing on all sides one set of corticifugal fibres and which, lower down, penetrated, as already said, into the atrophic side, passing dorsally to the great mass of free pyramidal and corticocerebellar fibres, now gradually collect at the ventro-lateral periphery of this side (i. e. the atrophic side), lying just outside of the pyramidal tract, which, we repeat, they cross or cover over ventrally, at no point whatever, leaving thus this pyramidal tract perfectly free at the anterior border of the pons Varolii throughout its whole extent.

Just how the brachia conjunctiva leave the tegmentum to pass into the cerebellus (their course being, of course, just the reverse) is not clear, the fact being that the roof of the ventricle is nowhere intact. Higher up, a thin blade of white matter containing well-stained fibres, in which the outgoing filaments of the patheticus can be distinguished, as well as other fibres evidently belonging to the superior cerebellar peduncles, leaves no doubt that we have to do with the valve of Vieussens, but it must be said that such a process exists only on one side, the other half having disappeared; a fact one readily conceives on seeing the extensive lesions which have occurred at all points along the floor and more especially at the lateral angles of the ventricle, corresponding to the acoustic nuclei, the restiform bodies, etc. The process has even gone so far as to disrupt the cerebellar substance intervening between the nucleus dentatus and the tuberculum acousticum. In part at least, the fibres of the brachia conjunctiva seem to join those of the brachium pontis at the side of the pons. Still lower, near the ponto-bulbar junction, the fibres of the brachium pontis abandon the field situated to the outer side of the pyramid, trend backward and seem to blend with the most superior extension of restiform body of that side (i. e. the atrophic side), then to curve outward and merge into a dense tangle of deep-staining fibres which is capped over by cerebellar folia.

The cross-section of the fasciculi teretes and of the posterior longitudinal bundler appears perfectly normal. Both the motor and sensory pontic nuclei of the trigeminal nerve are distinctly recognizable, as is also the descending or spinal root of this same nerve. A point which is of particular interest, being given the scantiness of our knowledge concerning this special detail in nervous anatomy, is the distinctness with which the relationship between the trigeminal system and the cerebellum can be studied. Continuity of decussation trigeminal fibres with outgoing radicular filaments—the passage of fibres from the vicinity of the fifth nuclei and from their decussating field into the cerebellar hemispheres, by way of the lateral ponto-cerebellar angles, their relations to the fasciculi teretes, etc., are all details which are most clearly appreciable. At this level also both bundles of pyramidal fibres begin to resemble each other somewhat more distinctly than heretofore, and there is, apparently at least, a partial restoration of the wanting mesial lemniscus. Both abducens nuclei as well as their outgoing radicular filaments come prominently into view, as do also the subventricular loop and outgoing roots of both facial nerves; the first part of the latter nerve, that which, after its origin, courses dorso-mesially to encircle the abducens nucleus is less clearly appreciable. The same may be said of the nucleus of origin of the facial. Whereas, on the relatively healthy side, the abducens root-fibres emerge at the ventral border, those of the atrophic side leave the pons at the bottom of the anterior fissure which is quite deep at this level. Irradiation of the root-filaments of the trigeminal nerve into their pontic nucleus, is very distinctly to be seen on the healthier side of section. A plexiform network situated dorsal to the pyramidal tracts on either side seemingly represents the system of the corpus trapezoides. Its fibres decussate in the median raphe and literally traverse, in part, the restiform body, as if going to the cerebellum, but in reality, they come into relation with a collection of ganglionic nerve-cells located to the outer side of the restiform body and which probably belongs to the ventral acoustic nucleus; this nucleus having acquired abnormal relations to the surrounding structures owing to the very considerable displacement which has resulted from the extensive lesions involving the bulbo-ponto-cerebellar angle. This view receives additional support as we consider lower sections, i. e. sections passing slightly above the level where the inferior olives come into the field, when there appears just outside of the fully-developed restiform body, a long vermicular collection of ganglionic nerve-cells which borders on the dorso-lateral periphery, curves forward along the ventral aspect of the restiform body and receives the fibres of the cross-coursing bundle attributed above to the system of the corpus trapezoides. This cellular collection is doubtless part of the ventral acoustic nucleus with its tuberculum acousticum. At this level, it is impossible to outline the pyramidal tract on the atrophic side, but it is still fairly well-defined on the opposite side. Both crescentic areas occupied by the descending spinal roots of the trigeminus are clearly defined and practically normal in appearance. The restiform body of the healthier half of this region cleaves into two distinct deep-staining diverging areas, between which, a lighter field oblong in shape and poor in medullated nerve-fibres gradually develops. The posterior longitudinal bundles gradually unfurl beneath the mesial portion of the ventricular floor and slowly trend forward along either side of the raphe. The trapezoid formation is gradually replaced by the cerebello-olivary system.

Lesions of the ponto-peduncular level.—Lesions abound along the ventral periphery, penetrating into the interpeduncular recess, where a large almost empty lenticular cavity exists; giving the impression that it has resulted from softening associated with arterial occlusion. Other lesions are found at the lateral periphery with arterial occlusion. Other lesions are found at the lateral periphery behind the mass of fibres of the "fussepedunculi," dipping down into the substance proper of the organ, completely severing the most superior part of the brachium pontis, and furthermore interrupting, but only on one side, the mesial fillett at its angle of union with the lateral fillet; it has thus determined practically its total degeneration. These foci are in relation with vascular alterations of considerable intensity, which are to be found all along the ventral periphery, to a lesser extent along the lateral borders, but also at different points in the ventricular floor of the region. There is distinct evidence of a chronic leptomeningitis and ependymitis. The main vascular trunks appear relatively reduced in their general proportions on cross-section, but their walls are enormously thickened and fibrous in character. These blood vessels often appear as small round or oval structures, constituted by concentrically disposed, somewhat glistening, slightly wavy fibrous layers, occasionally occluded entirely, more often containing a few cells in their lumen, but rarely containing many; in which latter case the vessel-wall is only slightly thickened and its lumen occupied by a few shadow-cells. A number of vessels take a very black color in hematoxylin-stained sections or appear as blackish masses, which, with the high-power, are seen to be made up of equally black spheric cell-like bodies of unknown origin and character. The lumen of many blood vessels is filled with an admixture of these dark-staining black bodies and shadow-cells, both of which are equally to be found in the adventitial spaces of some of them. In between the various vessels, and lodged in the interstices of the leptomeninges, there is present a great variety of elements: granular detritus, apparently a few leucocytes, shadow-cells, a fair amount of blood-pigment with occasional refractive crystals, a few endothelial cells, granular cells containing particles probably derived from disintegrated tissue, occasional amyloid corpuscles and fibrous wavy strands. Less intense but analogus changes, are also observed about the Sylvian aqueduct and ventricular floor. Occasional thrombosed vessels in the depth of the organ are also seen, noticeably in the vicinity of the oculomotor nuclei, much more marked on one side, where the cells of the nucleus appear distinctly atrophied in comparison with those of its fellow, which, despite very appreciable lesions of like character, shows the presence of remarkably well-preserved ganglion-cells. It must be said that vascular alterations are also present in the substance proper of the brain-stem, being practically confined however to the peripheral zone, where the blood vessels show distinct increase in number; many having decidedly thickened walls and their lumen being often either partially or completely occluded.

Interesting changes are to be noted about the Sylvian aqueduct and the floor of the fourth ventricle. The exact location of the aqueduct is readily recognized owing to the persistence, at one point, of the regularly disposed line of ependymal basal cells, with fully-preserved details of morphologic structure. These cells have proliferated and form a thick compact limiting barrier; from their deep surface, emerge the characteristic basal processes which penerate into the substance of the subventricular griseum. The roof and sides of the Sylvian aqueduct have been completely undermined and present a jagged and irregular outline; the ependyma has been destroyed and replaced by numerous cells of peculiar morphologic type. They are numerous, rounded in outline, remarkably uniform in size, resembling in general texture the ependymal cell, but much smaller, and instead of being diffusedly and finely granular, they possess a much clearer matrix with only two, three, or four diminutive deep staining, bluish-black, dot-like granules, lying far apart from one another with intervening clear matrix. We are totally ignorant of their source and character. The possibility suggests itself that they are newly-formed, immature (judging from already specified proliferation of the same) ependymal cells, or the same, altered by disease, as they do resemble glia cells, such as are seen in different pathological states. These cells are either imbedded in the neighboring parenchyma, or lying free in the cavity along with a greater or lesser amount of degenerative products: granular debris, red blood cells, pigment, granular cells, etc. Scattered through the deep gray substance surrounding the aqueduct, are a number of large cells with rather indistinct markings, but which resemble in a general way, the classic multipolar ganglionic-cell.

The floor and lateral recesses of the fourth ventricle present analogous lesions at various points, but, with the exception of two small foci situated in the middle line and corresponding to the origin of the raphe, these lesions are most extensive in the more lateral portions of the floor and about the ponto-cerebellar angle. Practically over the whole extent of the ventricular floor however, slight changes have occurred, and almost every where, the basal ependymal cells are decidedly altered, appearing as jet-black, round or oval bodies, the true nature of which it would be impossible to appreciate, if it were not for the slender processes which can be seen to emerge from under them, and stream ventrally towards the raphe through the subjacent nervous parenchyma. At several points the ependymal line is interrupted; it is most normal near the origin of the raphe. Occasionally, it becomes reduplicated, forming infoldings or tubular prolongations which dip down into the subjacent griseum a varying distance. Two of these infoldings situated at the lateral angles, are larger than the rest, and deserve to be briefly described. One involves the subventricular gray matter dorsal to the descending cerebral trigeminal root on the healthier side; the other is situated under cover of the posterior corpus quadrigeminum on the atrophic side, extending very deeply into the formatio-reticularis and actually bisecting the intra-pontine segment of the brachium conjunctivum at the angle of union of its two blades. At both these points, owing to the presence of a number of fairly normal ependymal cells, the mechanism of this process can be clearly made out. A true invagination of the ventricular floor has occurred, forming an extremely narrow tubular prolongation closely resembling a tubular gland, the walls of which, formed by closely-packed proliferated ependymal cells, are here and there absolutely in contact, thus producing an alterating series of atresia and dilatations. These lining cells are very regularly disposed, take sometimes the normal stain, but often are replaced by jet-black globular bodies similar to those previously mentioned in connection with the lesions of the general ventricular floor; again, are intermediate forms observed, i. e., cells which are only partly laden with black granules, so that their texture is partly visible. It would seem that these black granules might represent the products of degeneration, and that the containing cells are truly ependymal cells, or else modified glia cells, which have taken on phagocytic activity. In many places, the ependymal cells have proliferated even to the point of forming local agglomerations, disposed in parallel rows three or four cells deep, and presenting in a very characteristic fashion a regular "shoal arrangement." In the lumen of the tubular infoldings thus determined, and about the ventricular surface at their point of dipping in, much free detritus exists, containing pink or violet (according to stain) staining cells, rounded or oval in outline, and the structure of which is identical with that of the ependymal cells (perhaps a different stage of development and representing a proliferating embryonal type), also the type of cell above described and which is characterized by the presence of isolated dot-like blackish granules in a clear matrix, as well as blood cells, granular detritus, blood-pigment and occasional classic granular cells. Near the elevated ventricular edges of these tubular prolongations, it is common enough to see peculiar shred-like collections or tufts, evidently formed by the aggregation of a great number of ependymal processes or fibrils. The lesion located beneath the corpus quadrigeminum posterius invades its ventricular surface to such considerable extent, that fairly large cavities have been formed, resembling that described in connection with the lesions of the interpendunuclear griseum, and like it, probably the result of vascular obliteration. All around these various lesions, marked changes are present in the blood vessels; thrombosis, thickening, extravasations composed of granular cells, blood pigment, etc. If distinct evidence of a true meningitis is scant at other points along the brain-stem, it certainly abounds over the dorso-lateral border of this segment of the pons, where lesions of considerable intensity are to be seen in the pia covering corpus quadrigeminum and the adjacent portion of the pons; extreme fibrous thickening of the vessel-walls, occlusion of the lumen with densely packed granular bodies and shadow-cells.

In the thickened meshes of the pia are lodged: desquamated endothelial cells, shadow-cells, granular bodies, granular detritus and blood-pigment. The whole process certainly resembles very closely the lesions observed in syphilitic meningitis(endarteritis obliterans, chronic fibrous thickening, involvement of the subjacent nervous parenchyma, absence of ordinary inflammatory reaction, i. e., of polymorphonuclear leucocytes, limited areas of softening, main localization in the leptomeninges, involvement of the optic sheaths, vascular alterations in the peripheral zone of the nervous parenchyma, etc.). At the level of the full development of the auditory system, a very peculiar anomaly presents. Owing probably in part to extreme ventricular dilatation, but certainly also to absence of one brachium pontis, and perhaps even to the coexisting ventricular lesions on the same side as this absence, a most existing ventricular lesion on the same side as this absence, a most marked disturbance has occurred in the relative disposition of the homolateral bulbar and cellular structures. The corresponding lateral angle of the fourth ventricle dips ventrally along the outer aspect of the restiform body as far forward as the ventral acoustic nucleus, then, the ventricular line arches almost transversely outward, so that it prolongs the general ventricular cavity ventrally at the side of the medulla, as a triangular extension, the apex of which is represented by the ventral acoustic nucleus. In doing so, it has cleaved the restiform body, and in part, the corpus dentatum, and stretched and invaginated the cerebellar structure in such a way that the dentate nucleus lies in the same plane with the olive and spinal trigeminal radix, and the surrounding cerebellar folia project beyond the ventral border of the medulla. The abnormality of situation of the ventral acoustic nucleus is clearly apparent, there being a gross lack of fitness to the neighboring cerebellar structures; it looks as if were merely stuck on. Not only have the structures been pushed forward and displaced, but owing again, probably, to material loss in volume resulting from absence of the pontine system, they have even been twisted upon themselves, much in the fashion of a spiral, made to execute a partial rotation, so that the two constituent root-bundles of the eighth or auditory nerve have undergone an almost complete transposition; the cochlear root lying to the inner, the vestibular root to the outer side, and the two crossing each other on arriving close beneath the ventral acoustic nucleus, where it can be seen, that the cochlear filiaments traverse obliquely the thickness of the vestibular root and come into relationship with the ventral acoustic nucleus which nucleus has remained in its normal situation below and to the outer side of restiform body. These particulars are all the more easily appreciable because the inner root is in great part degenerated, whether from the ventricular lesions involving part of its nucleus, or from the distinct vascular alterations over the ventral surface of the medulla which actually involve part of its fibres as they emerge from, or enter, the substance of the organ. Passing dorsally between the posterior expansion of the ventral acoustic nucleus and the restiform body, a few auditory filaments can be followed beneath the ventricular floor as far as the dorsal extremity of the raphe, where they dip forward, and decussate with similar filaments coming from the opposite lateral periphery, and derived from a nucleus highly irregular in contour, which is lodged in the substance of the restiform body and which evidently represents the ventral acoustic nucleus of that side; these delicate decussating fibres being according to all probabilities the striæ acousticæ.

The lesions observed at this level.—To return to the part which ventricular lesions may have had in bringing about this peculiar malposition, it must be stated that the changes which the choroid plexus of that side present, are of sufficient intensity to have caused decided disturbance of relationship. The plexus are found to be affected much in the same way as are the blood vessels of the leptomeninges of the base, i. e., they present marked thickening of their walls, decided proliferation of the endothelium which lines their ventricular surface, shedding of the same, which occurs as extensive placques of edge-to-edge-cells lying free in the ventricular interspaces, occlusion of their lumina by red blood-cells and often by black spheric bodies. The cerebellar cortex neighboring upon these lesions present peculiar alterations: the Purkinje cells, which, in the normal state, form a single layer between the molecular and the rust-colored or granular layers, are increased in number, especially at the apices of the folia, where they are disposed in rows of even three and four cells deep, and where, moreover, they are no longer sharply defined against the granular cells, but intermingle with the latter to such considerable extent, that some of them lie fairly deeply in the latter layer, while a fair number of granular cells advance beyond the border line dividing the Purkinje cells from the overlying molecular zone. The great majority of the Purkinje cells present great indistinctness of outline and take a more or less diffusely hemogeneous stain, but their processes are still plainly visible.

A section taken at the level of the maximum development of the olivary bodis, shows that there is between these two structures an extreme disproportion as to size; one being almost rudimentary, while the other is apparently normal in every respect. The healthy olive is situated on that side, which, at higher levels (peduncle and pons), we have found to be the more normal, i. e., provided with both sets of transverse pontine (ponto-cerebellar or cerebello-pontine fibres, etc.) fibres, and which, actually, is the seat of the major disturbances (i. e., of the cerebellar anomaly just described). The rudimentary or atrophic olive appears on the side which, throughout the pons, is devoid of superficial transverse pontine fibres. As we examine methodically from above downward (peduncle-medulla), the entire series of sections of this case, we notice that one olive appears much later than the other, and again disappears much sooner; thus showing that it has a decidedly shorter vertical extent than its fellow. Again, is the disproportion between the transverse diameters of the two olives most clearly appreciable on any cross-section passing through both bodies. Whereas the healthy olive presents the usual single, mesially-situated hilus, the rudimentary olive (Pl. I, Fig. 3) presents at first, i. e., at its superior pole, a well-defined dorso-laterally directed hilus, which, at lower levels, disappears, while two entirely distinct hili develop at its ventral aspect, one being ventro-lateral, the other ventro-mesial; these in turn disappear, when a normally-situated mesial hilus comes into view at the exclusion of all others. The atrophic olive consists of a much narrower blade of gray matter than that of its healthy fellow, and in a general way this blade has a far more even outline, its infoldings are much less numerous and far more shallow; at certain points, it appears as a fairly broad and perfectly smooth ribbon of gray matter, at others, it is markedly slender and distinctly convoluted. It is not surrounded by a well-defined capsule of nerve-fibres such as its fellow possesses. Its stain-reaction is somewhat altered, whatever the stain employed. Although at the superior pole, the cerebello-olivary system can be followed from both olives to the restiform bodies, in the greater part of its extent, the atropic olive is only very sparsely permeated by fibres, and, if it sends fibres to the opposite half of medulla, it must be said that no fibres can be traced from it to the formation lying dorso-lateral to it or to the homo-lateral restiform body.

The accessory olivary segments are clearly defined in connection with the healthy olive, but those of the atrophic body are scarcely appreciable except with the high-power, and even then, only the dorsal leaflet can be easily recognized.

A feature of particular interest at this level of the medulla, and best seen on a section passing slightly below that showing the entrance of the auditory radicular fasciculi, is the presence, just within the dorso-lateral periphery of the section, and on the same side as the above-described lesions and anomalies, of a small island of dentate nucleus, enclosed within the very substance of the restiform body. This body, it will be remembered, has been so to speak, bisected by the ventricular lesion; one segment remaining within the territory of the medulla, while the other has been wedged into the cerebellar angle and driven with it outward and forward along the lateral aspect of the brain-stem. This fact, i. e., this fragmentation of the dentate substance, affords additional proof that actual destructive lesions have occurred at the nucleus with its surrounding cerebellar folia and the restiform body; the latter, before it really leaves the medulla to pass into the cerebellum. Thus, an exchange of tissues has occurred between adjacent structures, a large segment of the restiform body having been driven en masse into the cerebellar hilus, while a small fragment of the corpus dentatum has become enclosed within the boundaries of the medulla—certainly a most curious transplantation of structures.

The floor of the ventricle at this level presents distinct evidence of well-marked lesions. The ependymal line dips in at various points, where its cells are decidedly increased in number, and a considerable number of small cavities, areas of local disintegration, are to be found scattered throughout the subventricular griesum; the lesions being most extensive at the lateral angle corresponding to the topographic disturbances just described. The fasciculi solitarii can be studied with advantage in this case, as the partial absence of degeneration of surrounding structures brings them prominently into view and renders it fairly easy to ascertain their various connections. Once the striæ acousticæ have entirely disappeared in the region of the raphe, after coursing beneath the ventricular floor from either dorso-lateral angle or tuberculum acousticum, one sees distinctly that the well-defined oval field of the respiratory bundles grows progressively lesser in volume from above downward, owing to the constant unfurling of their fibres, which, leaving their field, course mesially towards the raphe, where they decussate and finally become lost in the general area occupied by the mesial lemniscus on either side of the median raphe.

Sections taken from still lower levels and corresponding to the transition zone between medulla and cord, present several points of interest. The gray matter about, and especially behind, the central canal is the seat of considerable alterations; it has a granular appearance generally and takes a very poor stain. In it, a number of blood vessels with thickened walls and occluded lumen may be seen, as well as occasional small cavities containing granular detritus and around which blood pigment and granular cells abound. These deep-seated lesions are most extensive in one dorso-lateral field of the central canal, where they invade the domain of the nuclei gracilis et cuneatus of that side, which presented, at a higher level, the peculiar anomaly of the corpus dentatum and auditory nerve-roots. These foci have destroyed the greater part of the nucleus cuneatus but involved only slightly the nucleus gracilis; distinct cavitary lesions having replaced almost entirely the former nuclear formation. Vascular changes are also present in the leptomeninges of the ventral periphery and of the one lateral surface.

The most superior segments of the cervical cord present a practically normal configuration, as regards both the presence and relative disposition of the various structures entering into the constitution of this region. One notes however, the unusually small proportion of white matter, and that, although the gray matter predominates, its cells are few in number and their structural details very indistinct; this being especially true of the anterior horns, the multipolar nerve-cells of which are almost totally wanting on one side. The anterior columns are moderately and very diffusely degenerated. A more appreciable and more sharply defined area of degeneration is to be seen on either side, in the posterior field of the lateral columns and lying immediately in front of the tubercle of Rolando. It is somewhat more marked on that side which, at a slightly higher level, presented lesions in the domain of the end nuclei of the posterior columns.

Examinations of sections through the cortex of the Rolandic region and subcortical substance. The meninges which dip into the sulci contain many occluded vessels; the subpial molecular zone is oedematous generally, presents a porous aspect and is permeated everywhere by vascular streaks radiating into it from the overlying pia. The limiting layer or marginal zone of the cortex is destroyed at almost every point and contains pearl-like agglomerations of spindle-shaped nuceli. Between it and the pia, as well as in the meshes of the latter, a pink staining gelatinous detritus is present, in which are imbedded a considerable number of bright-red refractive dot-like bodies, which suggest very strongly, nucleoli, or else, migratory neurogliar nuclei. The subventricular zone shows a marked proliferation of the normally-existing neurogliar element, and appears as a broad dense band, finely-fibrillar in structure and very poor in nuclei. At several points, the ventricular lining is interrupted and occupied by patches of exudate, made up of granular debris, rests of endothelial cells, migrated glia-cells, shadow-cells, blood-pigment, etc. Vascular twigs whose lumina are literally choked with shadow-cells and granules of disintegration, are disseminated throughout the cortex and subcortex intervening between meningeal and ventricular boundaries. Both large and small pyramidal cells are markedly decreased in number, and the pericellular spaces more particularly of the glia cells are considerably dilated though empty.

In the occipital lobe, the ventricular dilatation has been so extreme that a frontal section of the lingual lobule has the form of a horseshoe, the arms of which are represented by the calcarine and collateral segments of the lobule. The calcarine fissure is the seat of extensive meningeal alterations. The pia is almost everywhere loosened from the subjacent cortex, the interval being filled by a pink-staining and almost structureless gelatinous substance, containing very few nuclei and evidently representing disintegrated products. In the mesches of the pia itself, numerous blood vessels, the transversely-cut surfaces of which are superimposed one upon the other in close proximity, are to be seen; their walls are markedly thickened and formed of mature connective tissue lamellæ, and in all of them, the elastica is unusually prominent. The lumen of most of these blood vessels is occluded by densely-packed collections of shadow-cells, intermingled with which, black-staining granules are often to be seen. In between these vessels, i. e., in the meshes of the pia as well as in the perivascular spaces, the bright-red refractive dots above referred to are again to be found. From the pial meshwork, thickened and obliterated vascular twigs penetrate in many places, into the molecular zone of the subjacent cortex, which, itself has an oedematous and sievelike aspect, is loosely fibrillar in structure and contains fairly numerous glia-cells.

The cells of the calcarine cortex are, in a general way, much better preserved than those of the rolandic area, although their fine morphologic structure is likewise noticeably obscured. The entire cortex has a riddled or cribiform appearance from the presence everywhere of dilated pericellular spaces, which are found about all types of cells. The polymorphous cells of the fourth layer are unusually large and clearly-defined (perhaps are they truly modified forms of the glia-cell). The glia-cells are markedly increased in number especially in the third layer.

The ventricular surface of this region presents the same alterations, in a general way, as those observed in the motor area, only that they are several times more extensive. Along almost the entire length of one segment of the lingual lobule, the subventricular area has been involved to such extent by vascular lesions, that there has resulted a long linear cavity with irregular contours and which is closely related to a longitudinally-cut arteriole whose walls are markedly thickened, and the lumen of which is filled with shadow-cells and degenerated particles. At certain points, the cavity is limited by wavy strands of neurogliar tissue and its lumen contains gelatinous-like material, fairly numerous glia-cells, shadow-cells, blood-pigment, fibrillar tufts, etc. Altered blood vessels and associated areas of rarefaction of the cortica and subcortical parenchyma, abound throughout this region, but are especially numerous in the ventricular segment of the section. There is a very decided trophy of the centrum ovale occipitale, with relative integrity of the gray cortical substance.

Sections through the ventricular surface of the caudate nucleus show most extensive lesions. The ventricular floor is everywhere undermined and the lining ependymal cells involuted, forming irregular islands of cellular tissue, scattered throughout the much-thickened and densely-fibrillar subventricular neuroglia zone. In many places, they appear as annular or ring-like structures, the cavity of which is almost entirely closed and contains shallow-cells and detritus; they closely suggest the cross-section of a tubular gland. Intense vascular changes are here again most abundant.

The optic nerves and tracts present a most extreme degree of sclerosis, and contain practically no recognizable vestige of former medullated nerve-fibres, being constituted essentially by strands of connective tissue through which numerous blood vessels are distributed, more especially in the peripheral layers, i. e., beneath the pial covering.

Case II.—E. T. C., female child, age at time of death fifteen months.

Clinical condition.—Microscephaly, cerebral diplegia. Cause of death, broncho-pneumonia.

Clinical History.—Condition of child on admission to St. Margaret's House (Child's Hospital) is described as follows in the hospital records: Small undersized, poorly developed infant. Appears like an infant of three months. Mental development retarded. Does not notice objects; has no responsive smile. Marked opisthotonos. Back of head flat; no cranio-tabes; no enlarged epiphyses or rachitic rosary. Anterior fontanelle open and measures one centimeter by one centimeter. Head small, marked microcephaly. No facial phenomenon. Upper extremities poorly developed and in a condition of rigidity. Right relaxes at times, and frequently a spasm occurs, in which the hands are tightly clenched and the forearms extended and supinated. These spasms are accompanied with pain and can be elicited by pressure on the brachial nerve. Lower extremities stiff and feet crossed. Child moves the legs, and at times this stiffness is relaxed. Reflexes greatly increased. During the spasms, the head is forcibly retracted and the child is soon in a position of opisthotonos. Repeated spasmodic attacks. The muscles of the scapular region and back are markedly hypertrophied. An ulcer on the fraenum linguae resists all treatment. Child refuses all food.

The above clinical picture resembles in many respects true tetany, and was diagnosticated as such when the child was first seen before entering the hospital. Even for some time afterwards, much doubt was entertained as to the true nature of the condition, so closely did the majority of the manifestations resemble those characteristic of tetany. It was mainly on account of the duration of the affection and the more or less persistent character of the rigidity, with absolutely no remissions during which all phenomena disappeared, that the diagnosis of an organic cerebral lesion imposed itself.

Broncho-pneumonia developed about one month after child's admission to the hospital and proved fatal.

Autopsy by Dr. Stanton, December 20th, 1904. Autopsy No.o-813.

Born September 1, 1903; died December 20, 1904.

Clinical Diagnosis.—Spastic infantile paraplegia with tetanoid convulsions and idiocy.

Gastro-intestinal tract apparently negative.

Central nervous system: Meninges negative.

Brain.—Weight 520 grammes. Convolutions sharp and well-defined. In the motor region on both sides, they are small and distinctly atrophied. Cerebrum is everywhere firmer than normal and especially in motor area on both sides, where it has a firm elastic resistance. Section shows decrease of gray matter in convolutions of the motor area with distinct relative increase of white matter. Cord is very much firmer than normal. On section, anterior median fissure is apparently more prominent than normal. Central canal easily recognizable. Relative proportion of gray and white matter apparently normal. On the under surface of the periosteum of the upper dorsal and lower cervical vertebræ, is a soft reddish gelatinous exudate from one to one and five-tenths millimeters in thickness.

Anatomical Diagnosis.—Diffuse sclerosis involving white matter of cord and motor convolutions of brain. Hemorrhagic periostitis involving periosteum of vertebral arches.

Microscopic Diagnosis.—Extreme congestion of epidural fat of upper dorsal and lower cervical region.

DESCRIPTION OF HISTOLOGIC APPEARANCE AND LESIONS OF THE BRAIN AND CORD.

Serial sections of the entire brain-stem, sections taken from the first, fourth and eighth cervical, the first, sixth and tenth dorsal, the first and fourth lumbar, the first and third sacral segments of the spinal cord, as well as sections from the cortex of the rolandic convolutions, the paracentral lobule and the calcarine fissure have been subjected to microscopic study. Sections were stained according to the methods of Weigert, Pal, van Gieson, with hematoxylin and eosin, etc.

In this series of sections, the only appreciable disproportion between the two lateral halves of the brain-stem is to be seen in the region of the mid-brain or cerebral peduncles, and is in no way the result of faulty section; the brain-stem, generally, was well-formed and moreover well-preserved, and the original sections passed through perfectly symmetric regions on both sides, i. e., as far as could be judged from naked-eye appearances.

Most of the sections passing through the superior and middle portions of the mid-brain, show that the various tracts of fibres and nuclear collections are all present, and likewise, for the most part, well-defined. But on closer study of sections taken from any level of the peduncle, it is seen that one pes pedunculi and more especially one red nucleus, are decidedly atrophic; their volume being strikingly inferior to that of their homologous structures. These atrophies are crossed and not homolateral.

The atrophy of one of the nuclei rubri constitutes the feature of prediminating interest; the affected nucleur being less than half the size of its fellow, devoid of its usually well-defined capsule (formed by the convergence of great numbers of medullated nerve-fibres) except along its mesial aspect, and otherwise encircled by a markedly degenerated annular zone. The lateral field of the tegmentum situated to its outer side is decidedly pale and degenerated. The outer segment of the capsule of the relatively healthy nucleus ruber, shows likewise at lower levels, considerable discoloration, which gradually advances from the dorso-lateral area—its point of entrance.

The fasciculi longitudinales posteriores are unusually well-defined throughout the peduncular region. In the lower regions of the mid-brain, a gradual readjustment of symmetry takes place, and once we consider sections passing beneath the red nuclei and through the decussating field of the brachia conjunctiva, a distinct disproportion between the homologous structures of the two sides is no longer appreciable. There still remains, however, a considerable pallor of the tegmentum of that side on which it was noted above, and the area bordering on either side of the raphe (the domain, in part, of the mesial-lemnisci and brachia conjunctiva), presents an appreciably poorer-staining property than in the normal state.

Vascular lesions are distinctly to be seen in this region of the brain-stem; being situated for the most part in the leptomeninges covering the ventral surface and sides of the peduncles, as well as in the ependymal lining of the Sylvian aqueduct. At the ventral border, the lesions occupy the receding interpeduncular angle and spread laterally on of the Sylvian aqueduct. At the ventral border of the crura. At one point, a very much altered and occluded blood vessel, cut in its long axis, appears within the deep substance of the peduncle, located alongside the raphe and in close proximity to the red nucleus, which, at higher levels, we have found to be the more normal of the two. By following this blood vessel on the sections lying immediately above and below that under consideration, we find that it stands in relation with the meningeal vascular changes of the ventral periphery; smaller lesions fill in the gap between the two foci, thus forming an uninterrupted line of alterations which stretches across the entire antero-posterior diameter of the peduncular region at its mesial line, and dipping in posteriorly between the two cellular areas representing the oculo-motor nuclei. It is probably this lesion, which, by interrupting a large number of conjunctival fibres at the moment of decussation, and before it had gone very far, had determined the decided atrophy and extensive discoloration of one of the red nuclei as was previously noted. Bearing in mind the exact seat of this lesion, i. e., close to the mesial border of one red nucleus, it is of course obvious, that the red nucleus of the opposite side should be that which has suffered most, as the fibres which surround it on all sides have been severed just at the point where they come closely together to decussate; whereas, only a minimum number of the fibres of the homolateral red nucleus have been involved, having already decussated and spread out fan-shaped to embrace their nucleus from all directions (in other words, many of these fibres have already reached a point beyond the seat of lesion). Such is the probable explanation of the fact that degeneration in the healthier red nucleus is confined to the dorso-lateral segment of its capsule.

The vascular lesions of the ventral periphery are well-marked; the blood vessels of the pia, cut either transversely or obliquely across, presenting markedly thickened walls and their lumen being filled with a mixture of shadow-cells and black spheric bodies having a granular appearance and probably representing products of degeneration. The lesions in this situation involve the emerging filaments of the oculo-motor nerves. Analogus vascular changes are also present at various points in the substance-proper of the mid-brain, and in the perivascular sheaths of many of the intra-peduncular vessels are to be seen desquamated endothelial-cells, granular bodies and detritus, small amounts of blood-pigment, etc. At a number of points along the floor of the Sylvian aqueduct, proliferation of the lining cells has occurred, and a fair number of tubular ependymal recesses dip down into the subjacent tegmentum.

Sections through the pons Varolii reveal but very few and very slight departures from the normal aspect. The various tracts of fibres stain about equally well on both sides, but all of them on either side, do not to the same degree, i. e., there is apparently a bilateral degeneration of certain fasciculi. In the ventral segment of the pons on either side, there is a diffuse and moderate degeneration of the cross-sectional bundles of corticifugal fibres contained between the two sets of transverse pontine fibres; it is more appreciable on either side of the raphe and in the mesial and dorsal field of this region, therefore, in the domain which most anatomists actually regard as belonging to the pyramidal fibres derived from the motor cortex. An appreciable though mild discoloration of the field occupied by the mesial lemnisci is likewise to be seen; it is distinctly more marked on one side.

A feature of interest at this level, although of no immediate importance to us in the study of the problem actually under consideration, is the unusual distinctness with which the connection between the abducens nuclei and the superior olives, as well as the relations between the trigeminal nuclei and radicular filaments and the cerebellum, can be made out.

Meningeal lesions characterized by the presence of thickened and occluded blood vessels are present at different points along the ventral periphery, and extend over the anterior half of one lateral border of the pons. The process also invades the substance-proper of the organ, but is practically confined to the marginal zone; apparently implicating nothing more than the superficial transverse pontine fibres. Slight vascular changes are occasionally seen on both sides of the median raphe and in the domain of the mesial filletss. Slight lesions of the choroid plexes exist at various points along the floor and in the lateral recesses of the fourth ventricle; in a few places these alterations are well-marked.

In the medulla, the topography and extent of degeneration becomes much more clearly appreciable and sharply defined. Both pyramids are decidedly atrophic and considerably degenerated, one slightly more than the other. Both mesial fillets are likewise markedly degenerated, more so perhaps than the pyramids, and certainly in a more even degree. In both pyramid and lemniscus, on either side, the degenerative sclerosis is diffuse and involves to the same extent every part of each structure, i. e., it is not segmentary in any way. The degeneration of the lemnisci is a feature which is all the more prominent at this level, because both areas occupied by the posterior longitudinal bundles (and which, in the medulla, are simply the dorsal continuation of those in which the lemnisci are situated) are perfectly intact; the contrast is therefore striking, on Weigert-Pal stained sections, between the irregularly triangular, deep-staining bundles lying at the ventricular end of the raphe, and the markedly discolored, elongated, spindle-shaped mesial fillets, situated immediately ventral to them and extending forward as far as the pyramids.

The field lying dorso-lateral to the olive on one side, is distinctly colored in comparison to the corresponding area on the opposite side; it practically corresponds to the domain near the tractus spino-cerebellaris ventralis (antero-lateral ascending tract of Gowers).

Lesions are not wanting in the medulla and are to be seen in several places. At the ventral border of one hemi-bulb, a small oval, distinctly destructive lesion is seen, which involves the ventral leaflet of the inferior olive and the overlying antero-external arcuate fibres; this lesion is probably responsible in part, for the lateral degeneration just referred to. Vascular alterations are observed all along the ventral periphery, in the anterior median fissure and over one lateral border of the section. Very distinct lesions are also present along the floor of the fourth ventricle and more especially about its lateral recesses. These ventricular lesions are most marked at the inferior angle, where the cavity narrows down to become converted into the tributed, in this region of the brain-stem, to central canal of the spinal cord. At this point of transition, a peculiarity to be noted is, that once the central canal has advanced fully one-third the distance between ventral and dorsal boundaries into the depth of the organ, it is not closed posteriorly; extending first dorsally as a narrow channel, which then dilates, forming a sort of ampulla which is at least three times the size of the canal proper and reaches the dorsal periphery of the section. About this posterior prolongation, and especially on one side, small cavitary lesions may be seen in the central griseum, which extensively involve the domain of the nucleus gracilis and slightly invade the proximal area of the nucleus cuneatus. On sections taken at the level where the sensory decussation begins, these central lesions are present on both sides and fairly numerous; extending more or less into the territory of both nuclei graciles and intercepting a fair number of internal arcuate fibres. The latter fibres, especially those which take their origin from the internal or mesial two-thirds of the general cellular area occupied by the nuclei of the posterior columns, are distinctly, even markedly, degenerated. The whole dorsal segment of the medulla at this level is irregular in outline and caved in, and in the overlying leptomeninges, thickened and thrombosed vessels abound; some are also found in the dorsal marginal zone of the medulla-proper and are surrounded by small foci of extravasation and deposits of blood-pigment. Vascular changes are likewise to be seen, in some of the sections, about the raphe and in the interolivary field, as well as along the whole antero-posterior extent of one lateral marginal zone, where an appreciable discoloration has resulted owing to the implication of a considerable number of fibres. At this level, as well as in the lower sections, the diffuse and fairly marked degeneration of both pyramids is most distinct. The descending trigeminal fasciculi are likewise decidedly discolored. Meningeal lesions exist throughout the series of bulbar sections; being situated more particularly over the ventral surface and extending along the greater part of one lateral border.

At the level of the motor crossway, there is a fairly well-marked degeneration of the ventral two-thirds of both columns of Goll, as well as of the marginal zone of both antero-lateral columns; the deeper portions of these columns which border upon the anterior horns being relatively normal therefore in striking contrast to the peripheral discoloration. The mass of fibres actually engaged in decussation appears degenerated generally. Throughout the cervical region (Pl. II, Fig 4), the area of degeneration occupies the domain of both direct, and both crossed pyramidal tracts, one of each of which is more involved than its fellow of the opposite side, and the two lying in the same lateral half of the cord; showing that in the production of the pyramidal degeneration, other factors besides the lesions of the cerebral hemispheres have been concerned. The domain of both prepyramidal, both antero-lateral ascending, both descending trigeminal and part of one direct cerebellar, tracts, is likewise distinctly degenerated. The whole degenerative process is distinctly more marked on one side than on the other. In the columns of Goll, the degenerated area rapidly loses in both intensity and extent. Throughout the superior and mid-dorsal regions, the most extensive degeneration occupies the territory of the crossed pyramidal and Lissauer's tracts on either side. The discoloration in the other areas above-noted, though still appreciable, is much less marked. The anterior and posterior nerve-roots are considerably degenerated. The fibrillar network of the vesicular column of Clarke outlines the topography of this cellular formation with remarkable distinctness throughout the dorsal cord. In the upper lumbar region, the degenerative sclerosis is much reduced in intensity, and is practically confined to the domain of the crossed pyramidal tract and posterior root-zone on either side. The nerve-roots at this level are but very slightly degenerated. In the sacral region, the area of degeneration is very well-defined and almost entirely marginal, occupying more particularly the posterior half of the peripheral zone of both lateral columns and both posterior root-zones.

Lesions, both intra and extramedullary, abound along the whole extent of the cord. The meningitic process, represented by a marked increase in the pial connective tissue, the blood vessels of which present greatly-thickened walls and an occluded lumen, and by remnants (blood-pigment, fibrillar shreds, granular cells) of a former exudate, is generalized, but is by far more marked over the posterior surface of the cord. There is an associated interstitial radicular neuritis, which again, is much more intense in the posterior nerve-roots, and which explain, in part at least, the widespread sclerosis of the nerve-roots previously noted.

Throughout the cord, but more distinct in the dorso-lumbar (Pl. II, Fig. 5) region, is an appreciable dilatation of the central canal, which, in the sacral segments, becomes even well-marked. It was distinctly visible with the naked eye, wherever a fresh cross section was made, so that one could speak of it as hydromyelia, although slight in degree. The structure of the walls of this canal is most distinctly seen to consist of a single row of very regularly-disposed columnar ependymal cells. The lumen of the canal is almost everywhere perfectly free, or else contains but the minutest traces of exudate. The surrounding neurogliar zone is decidedly increased in breadth, and has an essentially fibrillar structure with only a slight proportion of cellular substance.

Areas of perivascular parenchymatous rarefaction, or actual foci of myelomalacia, are disseminated throughout the central gray matter of the cord. In the cervical region, they are found more particularly about the central canal, involving the intermediate gray matter, the lateral horns, the basal and postero-lateral segments of the anterior horns and the domain of the anterior commissure. These areas are always in relation with pronounced vascular alterations; in close proximity to blood vessels having markedly-thickened walls, an occluded lumen, and the perivascular spaces of which are enormously dilated and partly filled with shadow-cells, blood-pigment, granular bodies and detritus, and into which a fair number of glia-cells have migrated. In some places, the vessels-wall is interrupted and remnants of former miliary hemorrhages are to be seen, or else, actual cavities mark the site of the destructive process. At the level of the seventh and eighth cervical segments, larger lesions of a similar character are situated at the base of one posterior horn, which is for the most part destroyed, as well as the surrounding substance of the intermediate gray matter; the base of the anterior horn being involved only to a very limited extent. The whole process resembles most closely that of poliomyelitis anterior acute in its later and stationary stage. The multipolar nerve-cells of the anterior horns are in a general way quite well-preserved. Similar lesions are found throughout the dorsal and lumbo-sacral regions, where they surround on all sides the vascular column of Clarke without actually involving it to any appreciable extent, except at a few levels, where it is decidedly implicated.

The cortex of the Rolandic and calcarine regions shows everywhere most distinct alterations. Meningeal changes are present, consisting in marked thickening and round-cell infiltration of the pia, thickening and obliterated blood vessels in the perivascular spaces of which, as well as in the meshes of the pia, large numbers of granular bodies are to be seen. The molecular zone of the cortex is rarified, presents a clouded and porous aspect and is strikingly poor in tangential fibres. The large pyramidial-cells are moderately reduced in number, but their finer structural details are markedly inappreciable. The neurogliar meshwork and glia-cells are distinctly increased in their proportion to the parenchymatous structures. Throughout the cortex, vascular lesions and miliary cavities are distinctly visible.

RESUME AND INTERPRETATION OF THE SECONDARY DEGENERATIONS, ATROPHIES AND FAILURES OF DEVELOPMENT OBSERVED IN EACH CASE.

In Case I, there is a moderate and diffuse degeneration of both pyramids; a degeneration of both mesial fillets, total on one side, partial on the other; a total degeneration of one lateral fillet and of one set of antero-external arcuate fibres; an incomplete but marked degeneration of both sets of internal arcuate fibres. There is a marked atrophy of one olive and one corpus quadrigeminum posterius, and a generalized atrophy of one-half of the brain-stem. There is total absence of one set of superficial and deep transverse pontine fibres, and of lateral half of the valve of Vieussens.

The degeneration of the pyramids is due to the numerous foci of perivascular disintegration situated in the overlying meninges, about the raphe, and even within their own territory at various levels throughout the brain-stem. The degeneration of the internal arcuate fibres on both sides, of one mesial fillet and one set of antero-external arcuate fibres, is in direct relation to the pericanalicular destructive lesions of the lower medulla, which involve the central gray matter situated in the middle line and in the domain of the nuclei gracilis et cuneatus of one side. The total degeneration of one mesial fillet in the ponto-penduncular region is merely the result of its actual involvement at the level of the extensive lesions previously described; it being in part reconstituted, as we have seen, in lower regions. The total degeneration of one lateral fillet is in relation with the extensive lesions involving the contralateral acoustic nucleus and tuberculum acousticum, and which at the same time, explain, the consequent atrophy of the related corpus quadrigeminum. The marked atrophy of one olive is due to the segmentition and partial destruction of the heterolateral restiform body. It is well to state in this connection, that the process which this olivary body exhibits, is distinctly an atrophic and not a degenerative one, properly speaking; a fact which would tend to show that the so-called cerebello-olivary tract is derived, in good part at least, from the olive and not exclusively from the cerebellum. The hemi-atrophy of the entire brain-stem is evidently in direct relation to the extensive lesions, situated, throughout the pons and medulla, about the lateral angle of the fourth ventricle on the opposite side. The crossed relation between the various segments of the brain-stem and the cerebellum, as well as the important share which the connecting systems have in the constitution of the brain-stem, are facts so well-known, that the mechanism of this hemiatrophy hardly needs further discussion. The absence of one-half of the valve of Vieussens and of one brachium pontis, is the result of their actual implication in the various destructive processes observed both about the ventricular floor and along the ventrolateral periphery of the ponto-peduncular region.

In Case II, we note an appreciable degeneration of both pyramidial tracts throughout their course, as well as of both mesial fillets; a fairly marked degeneration of the descending trigeminal fasciculi below the level of the sensory decussation; a discoloration of the prepyramidal area in both lateral columns of the spinal cord. There is likewise, a very marked atrophy and degeneration of one red nucleus, the source of which we have already sufficiently exposed. The degeneration of the motor tracts is evidently the result of the cerebral sclerosis which was well-marked in this case, the area degenerated in either lateral column far exceeds the proportions ascribed by classic authors to the territory of the crossed pyramidal tracts, and we are of the opinion that other degenerated tracts contribute to the topography of this uncommonly large field of sclerosis. The lesions observed between the red nuclei and upon which we have particularly insisted, involve the exact seat of decussation of the rubro-spinal tracts, deschibed by von Monakow. These tracts, one for each side, take their origin in the red nuclei, decussate in the median raphe, course through the pons and medulla where they occupy the antero-lateral segment of the formatio-reticularis, and in the cord are situated immediately in front of the crossed pyramidal tracts, finally terminating in part at least, like the latter, about the multipolar nerve-cells of the anterior horns. So far and to the best of our knowledge, the existence of this tract has been positively demonstrated only in the lower animals; without making any assertation with regrad to the fact, it seems to us that the actual observation is quite favorable to the hypothesis that the rubro-spinal tract exists likewise in man.

The degeneration of both mesial fillets (more marked on one side) and both descending trigeminal fasciculi in the spinal part of their course, is entirely referable to the bilateral and extensive changes situated in the domain of the nuclei of the posterior columns and which we have fully described in connection with the histologic appearance of that region. The unequal but bilateral degeneration of the antero-lateral marginal fields of the upper dorsal and cervical cord, is the result of the well-marked vascular changes observed about the intermediate gray matter and the proximal portion of the anterior and posterior horns. The sclerosis is probably not limited to the tract of Gowers, but all that our actual knowledge of the anatomy of this region permits to state, is that degeneration of this tract on both sides is unquestionable.

RESUME OF THE LESIONS COMMON TO BOTH CASES AND DISCUSSION OF THEIR ANALOGY WITH THE LESIONS OF TETANY.

Although internal hydrocephalus and cerebral sclerosis are entirely distinct pathologic entities, the respective constituent lesions of which have nothing in common, not only with each other, but also with the lesions described in connection with tetany, it must nevertheless be stated that in both cases actually under consideration, well characterized changes exist, which do not form part of the process associated with the determination of either internal hydrocephalus or cerebral sclerosis; or, if they do (which, in our belief, is not improbable), mention of them is still wanting, to the best of our knowledge, in the classic description of these morbid entities. These additional lesions which are identical in both cases, are likewise identical, or almost so, with many of the changes described in tetany.

The accessory changes to which we have referred may be briefly summarized as follows:

(*a*) Vascular and intestinal changes, occurring more especially in the leptomeninges of the brain-stem and spinal cord (available in one case only) and about the Sylvian aqueduct, the fourth ventricle and the central canal of the spinal cord; occasional foci also existing in the substance proper of these organs. These changes consist in marked thickening of the walls more especially of the medium-sized and smaller blood vessels; partial fibrous obliteration of a few, cellular occlusion or thrombosis of many, of them; perivascular dilatation and distinct evidence of chronic fibrous leptomeningitis and ependymitis; marked thickening of the sub-pial and peri-ependymal neurogliar layers.

(*b*) Parenchymatous changes, situated for the most part in the vicinity of, and certainly partly dependent upon, the lesions included in the first group, disseminated throughout the central grieseum of the brain-stem and spinal cord. These alterations are represented by various types of cellular degeneration and vary considerably in intensity from one level to the other; including all degrees of simple atrophy and cloudy swelling, loss of pigment or of the nuclear and nucleolar elements, distortion of contour and even total disappearance of the ganglion-cells. We are excluding, of course, the nuclear changes resulting from actual implication of the gray matter in the destructive ventricular lesions which were observed in both pons and medulla (as for instance, the extensive involvement of the acoustic nuclei, the nucleus cuneatus).

It is interesting to note in this connection, that in both cases, the nuclear lesions are practically confined (with the exception of the acoustic nucleus and tubercle, extensively involved in one case) to the same structure, namely: the nuclei of the posterior columns, the nuclei of origin of the oculomotor nerves, the nuclear field ventral to and between the nuclei rubri.

In drawing points for comparison between these various lesions and the changes described by most observers in connection with tetany, we notice, in the first place, that either category of changes just described has been advanced as representing the underlying anatomic cause of the tetanoid manifestations; the parenchymatous by the majority, the vascular and meningeal by a few, of the authors.

As regards first the latter class of lesions, which were well-marked in both our cases, it will be remembered that absolutely similar findings were described by Langhans, and especially by Pick, in one of whose cases, it is true, there existed clinically an associated epilepsy.

As regards secondly, the former category of lesions, that is, the parenchymotous changes, one glance at the synopsis of the actually recognized pathological anatomy of tetany given in the first part of this article, suffices, to show that all the changes therein specified are abundantly illustrated in our actual observations and fully represented in the above given summary.

The lesions of the spinal cord, which we had occasion to thoroughly investigate unfortunately in one case only, exhibit in the most striking fashion, the closest analogy with those described more particularly by Bonome and Cervesato. Similarly to these observers, we found areas of parenchymatous disintegration in the central gray matter, which, in some places, had resulted in the production of actual cavities, or had been replaced by newly-formed neurogliar tissue, appearing as a meshwork of very fine, delicate and beaded fibrillæ possessing remarkably poor staining properties. These rarefied areas closely resembled in every respect the process observed in poliomyelitis, as has already been discussed. Although disseminated throughout the cord, these various changes were most pronounced in the lower cervical and in the lumbo-sacral segments; with distribution corresponds to the topography of the lesions observed in tetany. As in the case reported by Weiss, the maximum implication of the anterior horns is seen in the lower cervical segments and involves mainly the lateral cell-group, although the process does extend to the intermediate gray matter and even to the base of the posterior horn.

The lesions observed in tetany were found mainly in the spinal cord, and again more especially at the level of its cervical and lumbar enlargements; but a fact not to be forgotten and which can certainly find application in this particular instance, is, that many observers, anticipating the presence of lesions the seat of which they had based on clinical calculations, either examined the cord alone or else even limited their investigations to the cervical and lumbar regions. In the cases observed and well-described by Ferranini, the changes were most pronounced in the medulla and in the cervical cord; in the lower region of the spinal cord, they were especially prominent in the vicinity of the vesicular columns of Clark and were often situated in territory presenting vascular disturbances. The latter details were unusually distinct in our own observation as will be remembered.

The pachymeningitis and intestinal neuritis described by Peters, were present in our Case II; mention of the former being made in the autopsy record which precedes the histologic description of this case and in which the latter lesion is more fully considered. As in this author's observations, the changes were found more especially in the lower cervical and upper dorsal regions; but the neuritic process was not confined to the extra-medullary segment of the spinal nerve-roots, involving the intra-medullary portion as well. It is well to state however, that in Case VII reported by Peters, extravasations in the course of the arteria spinalis anterior were observed, as well as degenerated foci in the posterior horns; lesions which were present in Case II herein reported and upon which we have dwelt sufficiently already. Peculiarly enough, as we glance over all the facts brought out by this comparative analysis, we find that the joint-lesions of our two cases include practically all the changes described in tetany by the different authors whose observations are on record.

As regards further points of comparison between the cases of tetany, which we have analyzed and our present observations, the fact should be mentioned that in two out of the seven cases reported by Peters, a marked internal hydrocephalus co-existed, and the gray matter beneath the floor of the fourth ventricle was the seat of distinct vascular changes: perivascular agglomerations of multinuclear leucocytes, even hemorrhages between ganglion-cells. Both these cases, in our opinion, can hardly be classed under the head of tetany, and we have grave doubts as to whether in these cases, the clinical manifestations were not the result of the ventricular changes, though slight perhaps, existed.

Marfan, among others, has called attention to the peculiar tetanoid syndrome induced by internal hydrocephalus, and designated these cases by the term "tetaniform rigidity." D'Espine reported similar instances under the name of "pseudo-tetanus."

Coming back to our original proposition, namely, the ease with which the spasmodic affections, of cerebral origin, of infancy and early childhood are confounded with true tetany, which, thus far, is considered to be associated with lesions situated essentially in the spinal cord—it seems to us that the anatomic reason of this clinical difficulty has become plainly evident.

We have seen first, that the lesions described in connection with tetany, whatever diversity there existed between the different observers as regards both the seat and intensity of these changes, were, in almost every respect, analogous to those associated with the various forms of cerebral palsy of childhood.

In the next place, we learned that cellular and interstitial alterations absolutely similar to those ascribed to the anatomic substratum of tetany, were capable of being determined by a whole series of toxic substances, so that, the primary factor concerned in the etiology of this disease was unquestionably some poisonous principle of varying character and derivation, freely circulating in the system; a view, moreover, which is rapidly becoming universally adopted.

In order then, to fully harmonize these various facts and to substantiate our hypothesis that the anatomic mechanism of the symptom "spastic rigidity" common to both tetany and cerebral palsy in childhood, is identical in both, there remains but to show that the latter affection is itself of toxic origin, and to explain the difference (only partial however) in the topography of the lesions in the two diseases.

As regards the toxic origin of the various lesions observed in cases of cerebral palsy, it hardly seems necessary to recall the results of the investigations of such authorities as Strumpell, Benedikt and Vizioli, Marie, Batten, who have demonstrated that an infectious encephalitis is, in many cases, the initial underlying process; the not infrequent association of hereditary syphilis brought out by Erlenmeyer, Osler, Koenig, etc.; finally, as regards those cases whose onset is extrauterine, the so frequent occurrence of cerebral palsy following the various acute infectious diseases of childhood.

As to the divergence between tetany and cerebral palsy with regard to the seat of lesion, we maintain that it is only partial, more apparent than real. The existence in the former of lesions of the brain-stem has already been referred to, and more careful and exhaustive investigation in the future will probably furnish additional instances. The changes in the nervous system in the latter affection moreover, are not confined to the brain and brain-stem; medullary lesions have been described by a number of authors. They were very distinctly present in the cases herein reported. Then, the very different circumstances under which tetany and the congenital forms, more especially, of cerebral palsy develop, must play some part in the determination of the seat of lesion; it would seem that the mere question of gravity might have some influence in localizing over the hemispheric convexity, the processes which take place during the latter months of gestation.

More important than differences in topography, are the very appreciable differences in intensity, which exist between the changes underlying the manifestations of tetany and those associated with the more severe clinical picture of cerebral palsy; and here there would be abundant room for further discussion. In attempting to explain even this major point of divergence, however, we shall confine ourselves to the following remark: if well-marked cellular and interstitial changes are produced by poisons in extra-uterine life, how much greater are not their chances of occurring in intra-uterine life, and how much more intense will they not be in the latter case, the toxic agent acting as it does, during the very initial stage of development upon delicate struggling cells, and furthermore exercising its dwarfing influence uninterruptedly during the entire later course of gestation?

ANATOMO-CLINICAL CONCLUSIONS.

1. A large number of toxic products, whatever may be their nature and origin, are capable of producing cellular and interstitial changes in the parenchyma of the central nervous system. Many of them are susceptible of further giving rise to tetany of a more or less complete type. They do not necessarily do so, and those which most frequently are associated with the development of tetany, are not so under any or all circumstances. There is here, probably, a question of degree both in the intensity and in the duration of the irritative process, as well as one of variation in the susceptibility or resistance of the individual.

2. Tetany actually possesses probably no characteristic anatomic substratum; the lesions regarded as pathognomonic of it, merely representing the reaction of nervous parenchyma to the irritating influence of an existing toxemia. The changes may take place without determining tetanoid manifestations, just as the latter are capable of developing in the absence of any appreciable alteration of the central gray matter; which, however, is not proof positive that some changes do not exist. Our actual methods may simply be inadequate to their detection.

3. Spastic rigidity, whether symptomatic of some well-defined nervous affection or appearing as an isolated clinical manifestation, is the result, in our estimation, of a vitiated or disordered innervation of, or impulse-transmission to, the peripheral motor neuron; which may be dependent either (a) upon irritation of partial (not complete) destruction of the central motor neuron, in any part of its course from the Rolandic cortex to its point of arborization about the multipolar nerve-cells of the anterior horns of the spinal cord; or (*b*) upon inhibition or loss of function of the coordinating centers of the spinal cord, situated in all probability (the fact not being yet proved although admitted almost universally as most probable) in the intermediate gray matter. The latter mechanism is realized in tetany, being given the seat of lesion, which, it will be remembered is in the central gray matter, involving to a greater or lesser extent the anterior horns, but never completely so. Such a lesion by destroying certain groups of cells would interfere with

readjustment of stimuli, which would then react, unmodified and improperly qualified, upon the anterior motor groups. In other words, the various peripheral stimuli entering by way of the posterior nerve-roots, would be continued by means of the various reflex and other collaterals uninterruptedly into the immediate pericellular fields of the multipolar nerve-cells, and might even be intensified if the conducting collaterals traversed areas where they were subjected to irritation. moreover, in such cases, involvement of the terminal ramifications of the central motor neuron, just previous to their contact with the multipolar nerve-cell or its dentrites, would be very easily realized. Extra-medullary or meningeal lesions may, under certain circumstances, disturb the normal transmission of impulses sufficiently to produce the same phenomenon; probably less of themselves, than on account of the secondary disturbances which they determine in the cord (compression, vascular disorders, etc.).

4. Spastic rigidity may be either very marked or very slight, with all intermediate degrees of severity; likewise, it may be either continuous or paroxysmal. In order to interpret the mechanism of production in each case, it is not necessary to invoke duality of lesion. Personally, we are of the opinion, that in its relation to variations in the severity and in the duration of the clinical symptom which it determines, the lesion exhibits directly proportionate variations both in intensity and in extent. We would readily conceive that an actual focus of myelomalacia, or a progressive sclerosis, would give rise clinically to persistent phenomena, whereas transitory vascular disorders like congestion and œdema, would produce equally transitory or paroxysmal manifestations, the repetitions of which would be as irregular in every respect as we know the underlying circulatory disturbances to be.

5. Not much lesser in importance than the meningeal localization, as a seat of lesion likely to produce spastic manifestations, is the central griseum surrounding the Sylvian aqueduct, the cavity of the fourth ventricle and the central canal of the spinal cord. The effect of irritative meningeal processes is pretty generally admitted, but the similar influence of ventricular or peri-ventricular lesions has not yet gained, we believe, the full recognition which it deserves.

6. Internal hydrocephalus, unapparent or inappreciable clinically is not particularly uncommon in infants and young children. Why it should not in certain instances produce the characteristic enlargement of the head, when, as is often the case, the ventricular dilatation is extreme, and although the fontanelles are still open and the sutures unossified, is not clear; no plausible explanation has yet been furnished of this singular pathologic anomaly. Such cases are naturally difficult of diagnosis, and the frequent occurrence of marked optic changes and often of local manifestations as well, leads usually to the diagnosis of cerebral tumor. When this group of symptoms presents in children under one year, however, the possibility of a latent internal hydrocephalus should always be considered.

COLLATERAL OR EXTRINSIC ANATOMIC CONCLUSIONS.

1. A fair proportion of the fibres which enter into the constitution of the cerbello-olivary system take their origin from the inferior olive.

2. The constituent fibres of the brachium points, as could be seen from the foregoing study of an instance where this structure is absent on one side, follow a course, from above downward, which is analogous to that of the fibres of the middle segment of body of the corpus callosum. This is, they do not associate symmetrically placed territories of the pons and cerebellum.

3. Although not conclusively demonstrable simply from the actual observation, we may assume the probable existence in man of the rubro-spinal tract of von Monakow.

4. The presence in the root-fasciculi of the auditory nerve of a certain proportion of fibres derived from the central acoustic nuclei, would seem extremely probable from the study of Case I.

BIBLIOGRAPHY.

Bonome and Cevesato. Sulla tetania idiopatica degl infanti, *La Pediatria,* 1895, p. 144.

Brown, Sanger. *Medical News*, 1902, Vol. 81, No. 1, p. 7 (Containing excellent list of bibliographie references).

Ferranini. "Histologische Veranderungen des Centralnerven systems und des Magens bei Tetanie des Magens," *Centralbl. f. in Med.*, 1901, No. 1.

Frankl-Hochwart. "Die Tetanie" in Nothnagel's Specielle Pathologie und Therapie, *Wien*, 1898, Bd. XI, Part II.

Kalischer. Krankenvortstellung in Berliner Gesell. f. Psychiatrie u. Nervenkr., *Centralbl. f. Nervenheilk u. Psychiatrie*. Bd. XIV, p. 245.

Katz, Kirchgaesser and Langhans. References in *Handbuch d. Pathol. Anat. d. Nerven-systems* by Flatau Jacobsohn and Minor, *Berlin*, 1904, Bd. II, p. 1306.

Oppenheim. Lehrbuch d. Nervenkrankheiten, Berlin, 1905, p. 1294.

Osler. Practice of Medícine, 1906, p. 1074.

Peters, R. Zur pathologischen Anatomie der Tetanie (Auf Grund von 7 Obduktions beunden). Theoretisches und Experimentelles uber die Genese der tetanischen Symptome, *Deutsches Archiv. f. Klinische Med.*, 1903, Bd. 77, p. 69.

Pick. Vorlaufige Mittheilung zur Pathologie der Tetanie, Neurol. *Centralbl.* 1902, No. 13.

Rossolimo. Zur pathologischen Anatomie der Tetanie gastrischen Ursprungs, *Neurol. Centralbl.* 1902, No. 5.

Schultze. Notiz uber einen pathologish-anatomischen Befund bei Tetanie, *Centralbl. f. Nervenheilk*, 1878, p. 185.

Weiss. Zur Pathologie und Pathol. Anatomie der Tetanie Wien, *Mediz. Presse*, 1883, p. 737.

Zappert. Anatomische Veranderungen des Nervensystems nicht pathologischer Natur, *Handbuch der pathol. Anatomie des Nervensystems.* Edited by Flatau, Jacobsohn and Minor, Berlin, 1904, Bd. I, p. 97 and 98.

CLINICAL CASES

TWO CASES OF MIDDLE EAR ABSCESS WITH SPONTANEOUS PERFORATION THROUGH THE ZYGOMA.

(REPORT OF CASES.)

By ADOLPH O. PFINGST, Louisville.

I wish to report two unique cases similar in their pathology and operated upon on successive days. The report will be confined to the features which make them unique.

CASE I.

Young Italian girl, aged 22 years, apparently in good health, and giving no history of former ear trouble, developed a middle ear abscess on the right side with spontaneous rupture of the drum, and rather a scant flow of pus. Two weeks after the rupture of the drum, she developed pain quite severe, and tenderness behind and above the ear.

Seeing her then for the first time I found the auricle slightly protruding with some redness behind the auricle above the level of the external auditory meatus. There was tenderness on deep pressure over the discolored region. There was a scant discharge of foul pus from a small perforation in the posterior superior quadrant of the drum. Temperature 101°, pulse 85. Operation was advised and accepted. Incision over the bone from the tip upward, liberated a small quantity of pus from under the periosteum when upper portion of the mastoid was reached. Retraction of the periosteum revealed a fistulous opening in the roof of the zygoma leading to a cavity about 1-4 inch in diameter, and filled with pus and granulation tissue. The cavity was cleansed and surrounding necrotic bone removed leaving a clean cavity apparently not communicating with neighboring cells. Subsequently the antrum was entered through Macewein's triangle and was found to contain no pus or granulation tissue, only a small amount of serum being present. The zygomatic cavity and the antrum were united by removing the intervening bone.

This girl is making an uninterrupted recovery, the opening being about closed.

CASE II.

A man 62 years old, also in apparent good health and also giving no history of previous ear trouble. Had an abscess in his right ear with spontaneous discharge through the drum.

I was called to see him a month later, when he gave the history of having had a slight discharge of pus and no pain until the last two days, since when he had suffered great pain.

At this time there was slight tenderness on pressure over the mastoid bone high up. There was no swelling in the ear canal. A small bead of granulation tissue protruded from a perforation in the superior posterior quadrant of the drum. This was removed and alcohol instillations ordered with relief of all symptoms for 4 or 5 days. The pain then came on more severe than before, there was a rise in temperature (100.5°) and in a short time the mastoid above the level of the ear canal became quite sensitive to pressure and somewhat swollen and red.

Exposure of the bone revealed a fistula at the identical point over the root of the zygoma, as we had found it in the case of the previous day. Removal of bone exposed a cavity filled with granulations. Quite an extensive involvement of the zygomatic cells was found. Soft bone separated the zygomatic cavity from the antrum. This was removed and the antrum exposed by removing bone over it. The antrum contained pus and granulations. They were removed and free communication with the tympanic cavity established. The wound in this case has also about closed.

These cases are unique in so far as the spontaneous formation of fistulae in the root of the zygoma is concerned.

Aural surgeons are all familiar with cases in which the cells of the root of zygoma participate in abscess formation and are recognizing more and more the necessity of exploring the zygomatic cells in operating for mastoid disease.

Instances of spontaneous perforation of the bone are also quite frequent, the most common point of perforation being the external surface of the mastoid bone over the antrum. Personally I have observed cases in which the perforation was at this point, the external surface lower towards the tip, the median surface into the digastric fossa, (Bezold cases) the posterior superior wall of the meatus or into the cranial fosa, but I have never seen a case perforating the root of the zygoma until I saw these two cases at about the same time, nor do I recall having seen a report of such cases.

The case of the girl was especially interesting inasmuch as the antrum was found apparently normal containing only a small amount of serum. Politzer was first to call attention to the frequency of cases of this kind, where notwithstanding extensive bone involvement in cases of middle ear suppuration there was no visible involvement of the antrum. Politzer advocates in cases of this kind that the abscess cavity be emptied, but that the antrum be not entered at all unless the osseous wall separating the abscess from the antrum be soft and necrotic or where direct communications exist between the abscess cavity and the antrum.

Illustrative of this the first case was one in which Politzer would not advocate opening the antrum, whereas in the second case where soft bone separated the antrum and the abscess cavity he would consider opening the antrum advisable. This experience has not been borne out by other operators and it is the rule of most operators as it is mine to enter the antrum in all cases in which pus is present in the mastoid and zygomatic bones.

DISCUSSION.

Jos. J. Shafer: Dr. Pfingst has reported two very interesting cases and they illustrate the fact that, in the absence of classical symptoms, we cannot tell just what to expect in mastoid involvement. I have never seen a report of a case of this character in which the condition started in the zygoma and extended to the high portion of the antrum. However, in all these cases it is a wise plan to go into the antrum and clean it out, and then go into the tympanic cavity, because, in 95 per cent of mastoid involvements, the infection comes through the Eustachian tubes and tympanic cavity. Therefore, I believe the best plan in dealing with mastoid involvement is to always open behind and inspect all areas that seem to be necrotic, because we cannot tell in which direction the fistulous tract will extend. Some time ago I saw a case in which, upon opening the antrum, no involvement was found, but in the upper portion of the zygoma there was a fistulous tract leading into the antrum, although the antrum cavity was perfectly normal.

S. G. Dabney: I have never seen a case just like this, but I believe that although the infection came through the antrum, the primary abscess was located in the mastoid cells.

One point I want to make is that most of these abscesses, whether in the root of the zygoma, or in the external cells of the mastoid, have their origin through the antrum. In Dr. Pfingst's case this was made manifest by the finding of diseased bone between the zygoma and the antrum, and the overwhelming probability is that the micro-organisms were introduced through that route. I believe, therefore, it is a wise plan to always open the mastoid antrum.

The peculiar feature of Dr. Pfingst's case is, not the involvement of the root of the zygoma (that is not uncommon), but rather the fortunate fact that the pus burrowed out at this point and made a superficial abscess, which made the diagnosis easy. It is not common for the pus to burrow out just at that point.

AORTIC ANEURYSM.

(FIRST PORTION—REPORT OF CASE.)

By William A. Jenkins, Louisville.

S. L., age 38, male, negro. Born in Kentucky, residence Louisville. Habits, chews tobacco freely and has been a hard drinker of whisky.

Family History.—Father dead, cause unknown. Mother living and in good health. He was the only child.

Personal History.—Married and has four children. All healthy. Had mumps in childhood. Had gonorrhea. Has acute articular rheumatism three and one-half years ago.

Present Symptoms and Examination.—December, 1912, developed a cough which has persisted more or less up to present time. Worse at night when lying down. Expectoration of blood during the past winter. Has marked shortness of breath. Complains of pain in right side of chest. Pain occasionally extends to right shoulder and down the right arm. Pain in back on the right side at level of the 4th rib. There is some bulging of the right side of the chest beginning at the level of the third rib, and extending down to the fifth rib. Pain on deep pressure over this area. Percussion dullness over this same area running up to the right edge of the sternum. Auscultation shows a systolic thrill over above mentioned area and a diastolic murmur is present. (Aortic regurgitation and water hammer pulse is present). There is some cardiac hypertrophy. The apex beat is not much displaced. Behind, on the right side from the 3rd to 5th rib, there is an increase of breath sounds, due to a pushing up of the lung substance. The fingers of both hands are markedly clubbed. Urinalysis negative.

Diagnosis.—Aneurysm of the first portion of the aorta mostly on the right side. Diagnosis verified by X-ray examination and photographs.

Hyomandibular Fistula.—The patient was a girl of 8 and the fistula was of congenital origin. It opened 2 cm. below the ear, the other end opening into the outer ear, and it was successfully excised.

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Vol. XI. Bowling Green, Ky., August 1, 1913 No. 15

THE BOWLING GREEN PROGRAM.

Things are moving on rapidly for the Bowling Green meeting. The preliminary scientific program is printed in this issue. No physician practicing in Kentucky can afford not to hear these papers. Any physician called on to treat a case of whooping cough will get enough from the first paper on the program to pay him for the entire session. The symposium on Gastric and Duodenal Ulcer or Gall Bladder Diseases will be of even greater value on account of the greater frequency in our private practice.

Upon special invitation of Dr. Roberts, two ex-Kentuckians will be on the program, who are the leaders of their respective specialties. Dr. Virgil P. Gibney, of New York, the leading Orthopedic surgeon of the world, will discuss the diagnosis and treatment of Knee Lesions in the Adult. Dr. Gibney is an old Harrison county boy, and it will be a pleasure to welcome him back home. Dr. William Carpenter MacCarty, of Rochester, Minnnesota, will talk about the pathology of Ulcer and Cancer of the Stomach and Duodenum. Dr. MacCarty was born in Bullitt county, and he will bring us the latest developments on this important subject.

The symposium on the Nasal Accessory Sinuses is especially timely, as so few of us know anything about these. For the first time in the history of the Association two hours will be given to papers on Urology. Drs. Wheeler and Stine have furnished us an especial treat for both hours. Dr. Bransford Lewis, of St. Louis, is one of the most delightful teachers in the entire profession. His subject is one eminently interesting and profitable to the general practitioner. On the last day, the symposium on Difficulties of Urination in the Male will present methods of diagnosis and treatment on this important subject that none of us can afford to be without. The newer developments in this specialty are known but slightly by most of us general practitioners.

Read the program and see the other individual papers; particularly those on Pharmacology, several important drugs; the newer Vaccines; the Puerperal subjects; the newer developments in X-ray diagnosis, and in Preventive Medicine. It is a splendid program and the various committees are to be congratulated on their success in securing such valuable treatment of the most important subjects in medicine.

THE BOWLING GREEN SESSION.

The Bowling Green session of the State Medical Association promises to be historic. Advance letters indicate the greatest meeting that has ever been held. Ample quarters will be provided for everybody. As is well known, the Western Kentucky Normal School is located in Bowling Green and our meeting will be held just preceding its opening. As the Normal School has 2,000 students, we will have rooms in the best houses all over the city. The Committee on Accommodations will have no difficulty in housing everybody. If you want to bring your wife and family, write how many rooms you want, what you want to pay for them, and the Committee will guarantee you will get your money's worth.

Every doctor in Kentucky is vitally interested in the work of the State Board of Health. Its great Laboratories, its Vital Statistics Bureau and its Executive Office are all located in Bowling Green. Each one of you is responsible in a large measure for what it is doing, and it is therefore important that you inspect these things yourself, that you may know whether or not you are satisfied with its work. The State Board of Health is the executive committee of the State Medical Association. It is the servant of the Association for the protection of the health and lives of the people from preventable diseases. It now has more than fifty employees. We confidently believe that it is doing the best work now being done by any state board of health in the United States, and we want the whole profession to see and know about it.

Bowling Green is a delightul town. September is its most beautiful month. Its entire citizenship is looking forward with pleasure to your coming, and whether you come by railroad, steamboat, automobile or on foot, a welcoming committee will meet you and see that you get a good bed and an abundance of food. We will be disappointed if half the members of the Kentucky State Medical Association are not present at this meeting, and we will say to the other half that it will be a matter of regret to them the longest day they live if they are absent.

Remember the dates—September 2, 3, and 4th, and be sure to arrange to stay all day Thursday, the third day, as many of the best papers on the program will come that day.

CANCER.

The American Association for Cancer Research brings a serious indictment against our medical colleges in a resolution which was unanimously adopted expressing the sentiment of this Association that the present instruction of medical students in the symptoms and early diagnosis of cancer is seriously deficient, and that the medical curriculum should include special lectures in the clinical departments, dealing specifically with this subject, and that the activities of the Association should, at present, be chiefly confined to the education of the medical profession. The indictment is severe and is deserved. If there are any medical teachers who are doing their duty in the line of teaching the early diagnosis of cancer, the JOURNAL is ready to publish a defense from them.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY SCIENTIFIC PROGRAM, BOWLING GREEN SESSION, KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 2, 3 AND 4, 1913.

TUESDAY MORNING, SEPTEMBER 2.

Scientific Session—10 A. M.

Vaccine Treatment of Pertussis in Children ..By H. A. Davidson, M. D. Louisville

Epidemic Acute Anterior Poliomyelitis,
By Philip F. Barbour, M. D. Louisville

Salvarsan ..By M. S. Davis, M. D., Lexington

The Iodides ....
By John W. Gilbert, M. D., Lawrenceburg

Oration in Medicine—Special Order 12 M. The Conservation of Our Greatest Natural Resource ....
By T. A. Frazer, M. D., Marion

TUESDAY AFTERNOON, SEPTEMBER 2.

Scientific Session—2 P. M.

SYMPOSIUM ON GASTRIC AND DUODENAL ULCER.

Neurosis of the Stomach ....
By E. B. McMorries, M. D., Clinton

Diagnosis and Medical Treatment of Gastric and Duodenal Ulcer ....
By C. G. Lucas, M. D., Louisville

Relation of Gastric Ulcer to Gastric Cancer ...By William Carpenter MacCarty, Rochester Minn

Diagnosis and Indications for Operation in Gastric and Duodenal Ulcer, ...
By A. D. Willmoth, M. D., Louisville

Diagnosis and Treatment of the Knee Lesions in the Adult ....
By V. P. Gibney, M. D., New York

Bacterial Diseases and Their Prevention,
By Jacob Schultz, M. D., Logmont

Prevention of Tuberculosis, ...
By Dunning S. Wilson, M. D., Louisville

The Minister and Public Health, ...
By Leonard W. Doolan, D. D., Bowling Green

The End Results of the Hookworm Dispensaries, ...
By O. P. Nuckols, M. D., Pineville

TUESDAY EVENING, SEPTEMBER 2.

Public Session—8 P. M.

Annual Oration, ...
By Olin West, M. D., Nashville, Tenn

WEDNESDAY MORNING, SEPTEMBER 3.

Scientific Session.

Diagnosis and Treatment of Ectopic Gestation .....By N. C. Witt, M. D., Franklin

Uterine Hemorrhage and Its Significance,
By R. C. McChord, M. D., Lebanon

Diagnosis and Treatment of Secondary Puerperal Pathological Conditions,...
By J. K. W. Piper, M. D., Russellville

Modern Methods of Infant Feeding, ...
By Gavin Fulton, M. D., Louisville

An Essay ....
By J. W. Kincaid, M. D. Catlettsburg

SYMPOSIUM ON DISEASES OF THE NASAL ACCESSORY SINUSES.

Etiology and Pathology of Diseases of the Nasal Accessory Sinuses, ...
By Ernest Rau, M. D., Bowling Green

Diagnosis of Diseases of the Nasal Sinuses, ...By S. G. Dabney, M. D. Louisville

Treatment of Diseases of the Nasal Accessory Sinuses, Surgically and Otherwise ....
By J. A. and W. S. Stucky, M. D., Lexington

Oration in Surgery—Special Order 12 M.

Oration ...By W. E. Senour, M. D., Bellevue

WEDNESDAY AFTERNOON, SEPTEMBER 3.

Oration in Urology. The Necessity of Refined Genito-Urinary Diagnosis, Together with the Methods of Attaining Same; Illustrated with Lantern Slides,
By Bransford Lewis, M. D., St. Louis

The X-ray as an Aid in the Diagnosis of Diseases of the Internal Organs, ...
By D. Y. Keith, M. D., Louisville

SYMPOSIUM ON DISEASES OF THE GALL BLADDER.

Symptomatology and Diagnosis of Gall Bladder Disease, ...
By J. B. Lukins, M. D., Louisville

Medical Treatment of Gall Bladder Diseases, ...
By W. F. Boggess, M. D., Louisville

Indication for Operation in Gall Bladder Diseases. .By Louis Frank, M. D., Louisville

Surgery of the Gall Bladder, ...
By J. D. Jackson, M. D., Danville

After Treatment and End Results in Surgery of the Gall Bladder, ...
By F. H. Montgomery, M. D., Danville

THURSDAY MORNING, SEPTEMBER 4.

Scientific Session—9 A. M.

Hypodermic Medication, ...
By C. G. Daugherty, M. D., Paris

Some of the Newer Drugs, ...
By Virgil E. Simpson, M. D., Louisville

Digitalis ....
By H. R. Henry, M. D., Winchester

Vaccine Therapy ....
By R. Hays Davis, M. D., Louisville

SYMPOSIUM ON DIFFICULTIES OF URINATION IN THE MALE.

Stricture of the Urethra,..............
By J. T. Windell, M. D., Louisville

Contracture of the Vesical Neck, ...
By George H. Day, M. D., Louisville

Prostatic Hypertrophy, ...
By Homer G. Hamer, M. D., Indianapolis

Atony of the Bladder, ...
By Carl Lewis Wheeler, M. D., Lexington

Discussion, to be opened ....
By Cyrus Graham, M. D., Henderson

THURSDAY AFTERNOON, SEPTEMBER 4.

Scientific Session—2 P. M.

Tuberculosis of the Serous Membranes ..

Colon Bacillus Infection, ...
By Vernon Blythe, M. D., Paducah

Functional Affections of the Heart, ...
By C. B. Johnson, M. D., Earlington

Traumatic Displacement of the Kidney,
By J. H. Peake, M. D., Louisville

Emergency Surgery, ...
By B. E. Giannini, M. D., Straight Creek

How the Physician Can Help in the Enforcement of the Pure Food and Drug Law .....By Hon. R. M. Allen, Lexington

What the General Practitioner Can Do to Educate the Public in Prevention of Diseases, ...
By A. V. Menefee, M. D., Williamstown

Eclampsia; Causes and Treatment, ...
By Edward Speidel, M. D., Louisville

ORIGINAL ARTICLES

HEREDITY; ITS INFLUENCE ON PROGENY.*

By J. T. Dixon, Owensboro.

The purpose of this meeting was to invite all our friends and neighbors here to-day that they may see and hear just what doctors talk about. In fact the program was arranged with the view of educating and entertaining the people, avoiding as much as possible the scientific technicalities of medicine so confusing to the average layman, and talk of things in a way that all may understand. The subject assigned me is: "Heredity; Its Influence on Progeny."

In presenting this subject I will first speak of the responsibility of heredity in the development of the degenerate and the criminal, and then the clinical manifestations of heredity in certain diseases.

We all believe in heredity when confined within certain limits. We believe that we inherit the features and physiognomy of our ancestors, the brown eyes, the black hair, the Roman nose, the square chin, and prominent cheeks. A great variety of traits and mannerisms exist in certain families handed down from generation to generation, such as tall or small stature, corpulence or leanness, agility, powers of oratory as evidenced in the Clays of Kentucky, left handedness, grace of movement or oddities of gesture. A special aptitude for music, natural science, or the art of good house-keeping is often observed to run through several generations, while some families are noted for such virtues as business integrity, truthfulness, temperance and frugality, others are equally marked for dishonesty, drunkenness and lewdness. It is characteristic of some families to have excessive growth of hair and the early loss of hair. Peculiar markings or moles may appear through several generations and oftentimes upon the same parts of the body. I know a family in which a mole appears upon the cheek of every member, the father having a mole upon his cheek. Longevity and shortness of life seems to be characteristic of some families. How often is it that we see several members of the same family live to be very old and how often is it that we see families that hardly reach the age of fifty being specially predisposed to some one of the infectious diseases.

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*Read before the Daviess County Medical Society.

The propensity for vice and crime is strongly predominant in some families, but to attribute all vices and crime to heredity would be an error, for environment in a measure is responsible for this propensity. We cannot compare a human soul to a plant, the future life of which we absolutely know in advance. A human being may bring into the world with him the future shape of his body, but he does not necessarily bring in his mind, his character, his freewill, his entire disposition. We still have the comfort of knowing that all these can be influenced by education and especially moral education, with the beneficent influence of church and precept. Yet after all this, how often is our faith in example and precept shaken, when we see some child brought up in the healthiest moral environment, surrounded by every requisite for the development of a true and noble character turn out utterly worthless, the educated polished criminal with an insatiable longing to practice the craft of perhaps some unknown ancestor. Can this be explained other than through the laws of inheritance. No! It cannot. A most remarkable example of this form of inherited depravity has been traced through six generations by Dr. Winship of New York, having at his command accurate and complete records of the descendants of a criminal by the name of Jukes numbering seven hundred and nine. The great majority consisted of murderers, thieves, prostitutes and idiots. A number had been executed by the State. A number had been incarcerated in prison. A number confined to insane asylums and a number were public charges. Just what the descendants of this one individual had cost the State amounted to hundreds of thousands of dollars.

Another more recent instance of expensive inherited degeneracy is that of the McNamara brothers, the famous dynamiters, destroying millions of dollars worth of property and scores of lives. Their ancestral history is of the worst type. Their father was in prison twice, once for assault for attempted murder, and once for incest with his own feeble-minded child, sister of the two criminals, and there was another feeble-minded child in the family. Of all the criminals born in the State of Indiana more than half of them can be traced to one hundred and fifty families. Such evidence as this is most convincing that degeneracy and a love for crime is transmissible through inheritance, and where both heredity and environment have undisputed sway in the process of character formation, the plant is sure to be as the seed sown.

Would it not have been best for the State and for society that this first Juke and this first McNamara as soon as it was discovered that they were incorrigible criminals to make them sterile, that they could not create their kind, and people the earth with its murderers, thieves, prostitutes and every form of degenerate. If inheritance and environment play such an important part in the formation of the criminal, why would not the practice of sterilization of the confirmed criminal eventually eliminate crime in all its repulsiveness from our midst and let us live in peace and happiness, having confidence in all mankind.

To the practitioner of medicine the subject of disease as influenced by heredity is of peculiar interest. We all know that in certain diseases heredity plays an important part, and in taking the history of every case coming under our observation one of the most important parts is that devoted to family history. Oftentimes facts gathered from this is the turning point in the diagnosis. Especially does inheritance play an important part in all diseases eminating from the nervous system, such as insanity, epilepsy, chorea, hysteria and asthma. Heredity is undoubtedly operative in diabetes, cancer, cretinism, psoriasis, and hemophilia. There are certainly family predispositions to diseases involving special systems, the digestive system, the nervous system, the circulatory system. Anatomical defects are inherited such as hernia, hare-lip, bow legs and webbed fingers, all these are too often met with in the same family not to be governed by some law of inheritance.

There are many diseases, however, that are never inherited. They are wholly dependent upon some germ life for their development, the specific germ must be there before the disease can exist. Coming under this classification would be typhoid fever, pneumonia, dysentery, cholera, tetanus, the venereals, all the exanthematous diseases, such as measles, scarlet fever, and there are many others.

There is one disease, however, that I want to specially emphasize as not being inherited and that disease is tuberculosis. There are a great many people even to this day that believe that tuberculosis is inherited, transmitted from parents to children and only awaiting a favorable opportunity for development. They believe that if their ancestors had consumption as a matter of fact they must have it themselves, and only people having tubercular parents ever have the disease. It is easy for the uninstructed to believe all this when they see several members of the same family one after the other die from this disease. They have never been told that this destruction of whole families is due to direct infection from one to the other. That some live case of active tuberculosis in the family (perhaps a parent) may be scattered through his sputum or spit the bacillus, the germ of consumption that will be gathered by the child playing on the carpet or floor, innocent of the danger that may in after years claim him as a victim. The lodgment of the tubercle bacillus in the system (the lymph glands) does not necessarily mean that you are to develop consumption at once, it may lie dormant for years and at last claim you as its own, even if you have been removed for years from a tuberculous environment. It is an observation that cannot be scientifically disproven, that a child with no tubercular family history would be just as likely to contract the disease as a child of similar health born of parents later developing tuberculosis. If these children lived in the same environment and were both exposed to the same source of infection their chance for contracting the disease would be identically the same, heredity would play no part whatsoever. I doubt very much the assumption that we ever inherit even the predisposition. This inherited predisposition that is generally accepted as a fact can be accounted for in this way. If a child is born of parents already sick with tuberculosis or any other lingering constitutional disease, it would necessarily not be a strong child and would be more susceptible to development of any disease dependent upon germ invasion. It has not the resisting power of a child born of healthy parents, or if this same child was born of parents who later in life developed tuberculosis, I believe it would enjoy the same powers of resistance as any other healthy child and never develop tuberculosis, if removed from its environment. Everything tends to show the grave importance of family infection and the slight importance of inheritance with the development of consumption. This dethroning of the old pessimistic theory of an inherited predisposition deprives tuberculosis of much of its horrors, as it shows how infection may be avoided and that no one is fatally doomed from birth.

We hear and read quite a great deal about inherited syphilis. Since syphilis is dependant upon a specific germ for its origin, it is, in the strict sense of the word never inherited It is congenital, existing at or before birth, but this does not mean inheritance. Heredity begins at the moment of fusion of the spermatazoon and ovum, it is bound up within the wall of these life cells, and to be inherited necessarily the germ of syphilis must be carried along in these life cells which would be an utter impossibility, the cells would be destroyed. No disease dependent on germ life can be inherited. A few may be transmitted through the fetal cord as in smallpox or syphilis, or conveyed to the fetus in utero by the father, the mother escaping the infection, as in syphilis. But this intrauterine infection can in no sense be regarded as inherited, no more so than the disease contracted later in the life of the child as it plays in its cradle or upon the commons with other children. The biblical quotation we so often hear of the "Iniquities of the father being visited upon the children even into the third and fourth generation" certainly does not mean syphilis nor tuberculosis.

Since we advocate the sterilization of the criminal by the simple harmless operation known as vasectomy, as one of the most feasible plans for eliminating from our great social fabric, the degenerate or the criminal and thus free the world from one of its greatest curses, by making extinct this species of humankind. If this be so what must we do to prevent the diseases that are transmissible through the laws of inheritance. The answer is self-evident, many restrictions should be placed on the license to marry, and the ill-consequences of ill-assorted unions avoided. There is no reasonable doubt that the transmission of hereditary diseases could be effectually prevented in the human race as surely as valuable traits are preserved by breeders of domestic animals, provided the mating of human pairs was under equally wise control. The family physician could be of great service in such cases and ought to be consulted, but the fortune teller is generally preferred. Of course the tender sentiment of love, a thing we all nurture and fold to our bosom with fondest remembrance, should not be ruthlessly trampled under foot, yet it should not be the ruling passion, but rather, the crucial test of reason should hold the wand of authority, and each applicant for a marriage license should be required to undergo a careful physical examination and marked unfit, if found capable of transmitting any hereditary disease to their innocent, helpless progeny, their offspring, who in their turn would transmit it on to future generations.

PREVENTION BY VACCINATION.*

By Albert A. Schultz, Owensboro.

The mind of the public and also of the medical profession, in recent years, has been centered chiefly upon the wonderful strides, which have been taking place in surgery and they have lost sight of the fact that just as great work is being accomplished in medicine proper, and in the laboratory of the research man.

The prophylaxis and treatment of disease, by the use of vaccines, which has, comparatively recently been introduced into medicine, is destined from all indications, to revolutionize modern medicine.

In the brief time which I have to discuss this broad subject, I will dwell chiefly on those vaccines which are no more in the experimental stage, but have proven themselves indispensable in preventing and curing disease. The most important of these are the smallpox, typhoid and rabies vaccines.

Since I realize that a large percentage of my audience to-day does not belong to the medical profession I will in so far as I can, present this subject so that it can be understood by all of you.

In vaccination for any disease, our aim is to assist nature by developing in the patient's blood those anti-bodies which are necessary to combat the particular disease with which we are struggling. When a person develops smallpox during the course of the disease nature produces preventives or anti-bodies in that patient's blood, which prevent a recurrence of the disease. So in vaccination for small pox we attain the same end by inoculating our patient with an attenuated form of smallpox germs, the diminution in virulence being brought about by passage through the body of a calf. This inoculation produces a mild case of cow pox on the patient's arm, and thus in a practically harmless way immunizes him against that dreaded disease, smallpox.

The honor of introducing and establishing the practice of vaccination as a protective measure against smallpox must be accorded to Edwara Jenner, an English surgeon of the 18th century. He made his first vaccination in 1796, and thus began the stamping out of a disease, which was the scourge of the earth, and threatened to destroy civilization.

In vaccination we have a method by which smallpox can be wiped off the face of the earth and forgotten, if only such legislation could be enacted which would enforce vaccination and *revaccination* of all children.

Few people realize what a formidable disease smallpox was before the introduction of vaccination. In England 7.9 per cent of all deaths were attributed to smallpox; in Berlin 1-12 of all deaths. Three and one half millions perished from it in Mexico in the sixteenth century. In 1734 two-thirds of the population of Greenland was swept away by it. In Iceland 18,000 out of a population of 50,000 died of smallpox. Of new born children who died before their first year, one-third died from smallpox, and 50 per cent of deaths before the fifth year were due to this irresistible disease. Of those who escaped death, thousands were maimed by loss of sight.

Physicians and governments were helpless, quarantine was of no avail on account of the widespread nature of the disease.

At the present day the very success of vaccination has blinded people to its importance. It is easy to be bold against an absent danger, to despise the antidote when one has no painful experience of the bane.

As a result of vaccination we at the present time find no mortality from smallpox among the vaccinated.

Why is it that smallpox has practically disappeared from Germany? Because Germany has a national vaccination law which is enforced, and vaccination is never left to the discretion of the medically uninformed parent.

Why is it that we still have smallpox in Daviess county, Kentucky? The answer is easy. First, the State legislation in regard to smallpox is not strictly enforced; secondly, there is too much indifference on the part of the parents; thirdly, we have among us people who oppose vaccination, simply because once in their lives they heard of a death from vaccination. It is my candid opinion that if we had before us a complete report of each of the few authentic cases of death from vaccination we would find that in most of them death was *not* due to the vaccine itself, but to improper care of a mixed infection in the vaccination pustule. Why do the anti-vaccinationists not stop and think of the millions who have been saved by vaccination?

We actually have men and women in our community, who are willing to expose their loved ones to the danger of contracting a disease which in the sixteenth century caused one-half of the mortality of children before their fifth year.

Parents and guardians have no more right to withhold or neglect to provide vaccination for their children, than they have to jeopardize the lives of their helpless infants by not furnishing them with food and clothing. It is criminal to neglect either, as death may be the consequence, but the failure to provide protection against smallpox seems to me to be more maliciously wicked than to neglect either food or clothing, as the former may not only cause the death of the child, but may be the means of spreading disease and death among many others, while the evil which arises from the latter ceases with the death of the victim.

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*Read before the Daviess County Medical Society.

In recent years medical research has shown that the same principle which is used in the prevention of smallpox can be used in the prophylaxis and treatment of many other acute infectious and contagious diseases. Among these are typhoid fever, rabies, blood poisoning from any cause, rheumatism, influenza, etc.

The prevalence of typhoid fever in practically every section of the United States, makes any measure, which will protect the individual, or assist in preventing the spread of the disease of importance to health authorities, and of general interest. The production of artificial immunity against typhoid fever constitutes such a measure, and promises to have a considerable sphere of usefulness, especially for those about to enter conditions in which they will be unduly exposed to the disease.

However, although anti-typhoid vaccination is useful in the protection of the individual, it should in no wise supplant the measures now in use, and advocated for the prevention of the spread of the disease from the sick to the well. It should not lessen the precautions at the bed side, the disinfection of typhoid excreta, the keeping of water supplies, both private and public, free from contamination, the purification of public water, supplies where indicated, and the supervision of the production and sale of milk and other food stuffs.

Anti-typhoid vaccine as originally employed by Wright consisted of highly virulent cultures of typhoid bacilli or germs, grown in broth for 24 to 48 hours and killed by heating at 135 degrees F. The vaccine was then standardized i. e., the strength of the vaccine was fixed in accordance with another of known strength, the dosage of which had been gauged by inoculations in man. Anti-typhoid vaccine, unlike smallpox vaccine, is administered subcutaneously and three injections of the vaccine are necessary for complete immunization of the patient. The dosage almost uniformly employed consists of 500 million killed typhoid germs for the first injection, and 1,000 million for each of the two subsequent injections. This dose is designated for a healthy man weighing 150 pounds and is to be diminished for women and children in proportion to their weight. The symptoms of vaccination are usually confined to a slight headache, and malaise, and a local reaction consisting of a red and tender area about the size of the hand and sometimes tenderness in the axillary muscles.

The above slight inconvenience, caused by the vaccination may be considered nothing when we study the results which have been obtained in the United States, British and Japanese armies, and also in various epidemics throughout the United States.

Is it not high time that the medical profession do something for the control of typhoid fever? According to the estimate of Prof. Irving Fisher of Yale University, the number of cases of typhoid fever in the United States now is about 150,000 annually, the deaths approximately 25,000, a mortality of 16 2-3 per cent. In Kentucky during 1912 there were 772 deaths from typhoid fever, in Daviess county, 21.

Conservatively figured, the financial losses, life values, sickness expenses, wages, etc., mount up to 300,000,000 dollars.

Physicians do not need to be told that all of this is absolutely unnecessary, wholly preventable. But the public does need the knowledge and much more it needs the conviction and determination, to bring it to practical realization.

In all the principal armies of the world, the prevention of typhoid fever by immunizing with vaccine has been demonstrated in a most convincing manner.

Eighty-two thousand United States soldiers were immunized up to July 1, 1912. The typhoid rate among these dropped from 3.03 cases per 1000 in 1909 to .3 case per 1000 for 1912, a reduction of 90 per cent. Sixty-one thousand six hundred and twenty-two British soldiers were immunized in India during 1911. Typhoid incidence in the immunized was 1.7 per 1000, in those not immunized 6.7 per 1000, a case reduction of 75 per cent. In the Japanese army there was a reduction in the typhoid rate of 93 per cent.

Thirty thousand persons were immunized in Memphis, Tenn., during the recent typhoid epidemic, 517 of these were children, one to five years of age. The Department of Health report says that it saved the city from a most serious epidemic.

Two thousand and forty-four persons were immunized in Baltimore during 1911-1912, not a single case of typhoid occurred among these persons. In 309 hospital nurses and attendants immunized there were no cases of typhoid. Among 82 nurses and attendants not immunized there were seven cases.

One thousand three hundred and eighty-one nurses and hospital attendants in Massachusetts hospitals were immunized, only two cases of typhoid fever developed. Without immunization typhoid incidence was nine times greater.

These statistics certainly are convincing and prove to us that it is the duty of the physician, with the cooperation of the parents, to institute anti-typhoid vaccination together with the usual prophylactic measures in every epidemic or outbreak of typhoid fever.

In Pasteur's wellknown vaccine for the prevention of rabies, commonly known as hydrophobia, we have another illustration of the success of vaccines.

In all civilized countries there exist at present special institutions, either directly under the city's control or appointed by the city, where the Pasteur treatment for rabies is conducted. It is the duty of the general practitioner, in getting a suspicious case of rabies, to advise the patient to undergo this special therapy, and to send that rabid animal's head or brain to the institute as soon as possible to ascertain the presence of rabies.

The actual vaccine, used for the prevention of hydrophobia is prepared from the spinal cord of rabbits, which have been killed by inoculation with the fixed virus of the disease. The spinal cord is rubbed up into a fine emulsion with 5 c.c. of sterile salt solution. A cord, dried for 14 days is used for the first injection, emulsions of less attenuated virus, made by drying the cord a shorter period, are used on succeeding occasions, until finally a portion of spinal cord dried for only three or four days is employed.

If the Pasteur vaccine treatment is begun early in the incubation period the patient can rest assured that rabies will not develop.

In anti-rabic vaccine we are able to prevent a disease, which, when once developed means certain death.

The time is not far hence when we will have a vaccine which will prevent the human organism from the onslaught of that most feared disease, tuberculosis. Dr. Karl von Ruck, of Asheville, N. C., has been working on the prevention of tuberculosis for years, and in his latest report gives results which are very encouraging. His vaccine for tuberculosis differs in detail of preparation from the typhoid vaccine, but the general principle involved is the same. The vaccine is prepared from the proteins of tuberculosis bacilli, and a small amount of their fatty extractives.

Von Ruck's results show that the influence of immunization upon hundreds of children, classed as tuberculous, was particularly shown by improvement in their general appearance, when this had been found impaired in preliminary examination. Gain in weight occurred almost uniformly amounting in many instances to from ten to forty pounds, and therefore in excess of the normal increase of a growing child.

There is no question in my mind that in vaccines we have the ultimate solutoin of the White Plague problem, which now boldly confronts the entire world.

But not alone in vaccines have we found a formidable enemy to disease, but the introduction of antitoxins has also quieted many of our fears.

By the use of diphtheria antitoxin the physician can control every case of diphtheria, provided it is recognized and treated early enough. Every case of tetanus or lockjaw, which ever developed, could have been prevented if the child had received tetanus antitoxin immediately after it ran the rusty nail in its foot.

The sphere of usefulness of vaccines is not limited to prophylaxis of disease, but marvelous results are daily being obtained in the treatment of various diseases, such as blood-poisoning from any cause, viz.: boils, carbuncles, puerperal fever, pneumonia, erysipelas, scarlet fever, whooping cough and various skin diseases, especially acne vulgaris.

Vaccines have come to stay and before ten years have passed they will be just as indispensable in the therapeutics of the family physician as our old friend castor oil.

And why are vaccines successful? Simply because in administering them, we supply in our patients' blood those preventives which mother nature always tries to supply, but is unsuccessful. That is, we act in harmony with her.

Mother nature does not herself destroy and does not save. She simply evolves, and if she were conscious she would not be indifferent. Stand in the way and she hurts; act in harmony with her and she improves. With her sunshine she brings growth, warmth, and sunstrokes; her rain quenches man's thirst and drowns him; her wind purifies and favors fertilization and makes cyclones. She has no predilection and no reasoning, but is simply cause and effect. She can be guided by the logical mind or misguided by whim and sentiment.

Her necessities are engaged in a continuous strife for supremacy and in matters of life and health it is by utilizing or combating her doings that man is cared for and cured, and it makes no difference to nature whether we protest or comply the result is always the same.

MALPOSITIONS OF THE ABDOMINAL VISCERA IN INTESTINAL STASIS.*

By D. Y. KEITH, Louisville.

FIRST—THE STOMACH.

In the past five or six years numerous investigators have brought the Roentgenologic technique of examination of the gastro-intestinal tract nearly to the standard it deserves in medicine; until at the present day no chronic gastro-intestinal case has been thoroughly studied until an X-ray examination has been made by a well-equipped man.

After the administration of a bismuth meal, consisting of a large quantity of the salts of bismuth, two ounces, suspended in yogurt or heavy buttermilk we are able to determine the size, position and shape of the stomach and with some degree of accuracy the time it will take the stomach to empty itself. This is all recorded on plates and can be studied in detail when placed in your diagnostic box.

Previous to the X-ray technique many articles were written on the size, shape and position of the stomach. The conclusions were drawn in the clinics by percussion, on the cadaver and on the operating table. All these examinations were made with the subject in the recumbent position. The position of the stomach on assuming the upright posture bears no fixed relation to the stomach when when supine. It is nearly impossible to map out a stomach accurately by percussion when the subject is standing, for if any food remains in the stomach you do not get the tympanitic note of gas over the picture, making this method very imperfect.

As man spends most of his time on his feet, so in that position the stomach does most of its work; for this reason we should try to determine the form and position of the stomach in the erect posture, which can only be done accurately by the Roentgen method. Another interference of the percussion method is the taut condition of the abdominal muscles, especially the recti when the patient stands.

It is the conclusion of many X-ray observers that approximately fifty per cent. of the healthy people have what is described as a normal stomach. The remaining number presenting the characteristics of gastrectasis and gastroptosis to a greater or lesser degree. The normal stomach is believed when empty or moderately distended to occupy the left side of the abdomen, extending from the inner two-thirds of the left dome of the diaphram to the median line and about one inch above the umbilicus, the upper two-thirds being nearly vertical, the lower one-thirds nearly horizontal, giving the stomach a generally oblique direction and occupying a position almost wholly to the left of the median line. The essential point being that in a normal stomach the pyloris is on a level with the lower pole or greater curvature. No difference is recognized as to shape or position between the stomach of the child and the adult which is quite different to all our former teachings.

The average stomach when the subject is standing extends to or a little below the umbilicus, the lower portion of the greater curvature being distinctly below the umbilicus, the most of which is in the left side of the abdomen except, when distended the pylorus extends one or two inches to the right of the median line. The writer wishes to emphasize the difference between the normal and the average stomach of the healthy individual. The different types of stomachs are too numerous to discuss but a few will be mentioned and shown to you on the screen, viz.: the cow-horn, the fish-hook, the drain trap and many shapes too numerous to classify properly, as we rarely see two stomachs that assume the same shape occupying the same position in realtion to the umbilicus.

You will find the patients of visceroptosis when stripped to have the appearance of the phthisical patients, with the thin chest, stooped shoulders, prominent abdomen more marked in the pelvis, all of which is compensatory for the falling downward and forward of the abdominal viscera: the diaphragm and lungs going down to fill the space or vacuum in the upper abdomen. A greater percentage of these patients have very thin anterior abdominal walls.

When we come to consider the big gut it must be from two fixed points: the hepatic flexure on the left side and the splenic on the right, the splenic angle being more acute and from one to one and one-half inches higher than the hepatic. A gentle curve with the convexity downward represents the transverse colon which crosses the median line on a level with or a little above the umbilicus.

The largest portion of the big bowel being the cecum or second stomach, the ascending colon is next in size, the descending colon being the smallest portion which becomes rapidly smaller from the splenic angle downward to the inner border of the left psoas muscle where it is the smallest in caliber. It is at this point where it becomes the sigmoid portion of the large bowel.

The cecum, ascending and descending portions are fixed to the posterior abdominal wall by the peritoneum, which covers the anterior and lateral surface only of the big gut proper.

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*Read before the Christian County Medical Society.

It has been demonstrated in the postmortem room and clinically upon the operating table that the person who suffers gastroenteroptosis have a stretching of the attachments of the fixed portions of the large bowel, forming a distinct mesentery in this way allowing them to fall downward and forward. This stretching of the nerves in the mesentery undoubtedly accounts for a great part of the pain and discomfort these patients suffer. When we consider the mobile portion of the big gut it is the transverse colon and the sigmoid loop, which may occupy most any position in the abdominal cavity according to the length of their respective mesenteries and the degree of distension present. When these portions are distended with fluid by enema they are seen to gradually rise up, until fully distended, when they may easily reach and press upon the diaphragm. In the case of the sigmoid, to reach the dome of the diaphragm it must have a distinct mesentery and be a very long sigmoid. An enema given through an ordinary colon tube, introduced one and one-half inches into the rectum will reach the cecum in six or eight minutes there being no difference in a "low" and "high" enema save in amount and should be spoken of as a small or a large enema, although we have been taught the former for years and years.

THE RECTUM.

The best picture in your mind's eye of the rectum is to think of an inverted cone or a funnel with the valves of Houston placed on opposite sides of the bowel; this portion of the bowel is not mobile only as the perineal diaphragm and surrounding soft structures move with it. This movement can be felt when straining, lifting a heavy load or upon deep inspiration as in the act of coughing.

SYMPTOMS OF INTESTINAL STASIS.

These patients suffer in the mildest cases with only an occasional indigestion, eructation of gas, nausea, dragging sensations or, at times, of an uncomfortable feeling; they are not normal but their symptoms are hard to describe, even by the most intelligent. So long as the mobility of the stomach is good no symptoms are noticeable as this will compensate for any of the malpositions of the stomach.

The latter and graver symptoms are toxemia from intestinal stasis, which are manifested by coated tongue, foul breath, indigestion, distension with gas accompanied with more or less pain, occasionally feeling of suffocation, headache of the nervous or sick headache type, sallow or muddy complexion, malaise, anorexia, depression, cold hands and feet and a generally tired feeling, with no interest in work. Though hard for them to describe their symptoms they feel and believe that they are the most miserable creatures in existence. All, or a greater portion, of these symptoms of toxemia will be found in the cases of intestinal stasis which are easily explained when you have once seen the position and relation of the stomach and large bowel. The fact is you wonder why they do not have more trouble than they complain of with these positions. Practically all of these patients are constipated and pass large quantities of glassy colored mucus with an occasional tinge of blood.

One or two case reports will verify these statements to the most skeptical which will be recited as the plates are thrown on the screen.

CASE I.

Miss S., female, white, single, age 25, height five feet four inches, present weight 105 lbs., average weight one year ago 120 lbs., family history negative.

Present History: Has had diseases of childhood and has had no other serious illness; two and a half years ago noticed she did not feel well, tired very easily, suffered with marked constipation and pain in the right lower abdomen. Her symptoms were attributed to a faulty position of the uterus and chronic appendicitis of the mild form. She was anesthetized and the abdomen opened by a median incision, her appendix removed and her uterus suspended to the anterior abdominal wall. She had some relief after operation but was not completely cured; her constipation was more complete until at present she uses a rather strong laxative every night. At present an unpleasant feeling or dull pain is constant in the right abdomen. Two months ago the pain appeared in the region of the hepatic flexure soon after eating with some gaseous distension of the stomach. She now has a coated tongue, foul breath, and what she thinks is a bad liver, poor circulation, cold hands and feet, melancholia, and sleeps very poorly. Appearance of patient; thin, very anemic, visible mucous membranes pale, listless eyes, does not look vigorous, skin muddy and harsh to the touch. She is very nervous and has given up her corset on account of the sensitive condition of the abdomen.

CASE II.

Mr. J. V. A., male, age 26, weight 126, average 142. Patient always very thin and undersized, has never suffered any serious illness. In August, 1912, his appendix was removed for chronic appendicitis; no improvement was noticed, in fact he does not feel as well as before the operation: at present he never has any desire to evacuate the bowel unless stimulated by enema or a laxative.

Patient has a phthisical appearance, mucous membrane very pale, skin sallow and dry, appetite poor, cold hands and feet with poor circulation and has no interest in life. Abdominal muscles very flacid, mild gaseous distension of the abdomen present all the time with a prominent abdomen of the pelvic type. Is melancholic, has the old familiar tired feeling all the time, is much below par and is disgusted with life in general. He passes some mucus, especially if he allows two or three days to pass without a satisfactory defecation.

The point we wish to impress on you is to find out if possible in these chronic cases just where the trouble is before any operative measures are instituted so all can be corrected at one time.

CONCLUSIONS.

1st. That the stomach is much lower in the majority of healthy individuals than we have always been taught.

2nd. Many cases of long continued constipation can be accounted for when we see the size (when distended) and length of the colon, for as the length is increased it is much easier for acute angulations to occur thus retarding the peristaltic flow of the bowel contents.

3rd. That the positions and relations of the average stomach and entire large bowel is very imperfectly understood.

4th. That many persons have some degree of ptosis without any manifestation of symptoms and are average healthy individuals.

SUMMER COMPLAINT.*

By J. A. Kirk, Philpot.

The problem the medical profession is endeavoring to solve to-day is the establishing of a more perfect plan of co-operation between the layman and the medician.

In bringing to the people a better understanding of the laity's part in the great war that is being waged on disease and that the majority of our diseases are inexcusable and should be almost entirely prevented.

In placing the medical profession on a higher plane, then that of having the laymen believe, "Whatever is to be, will be." That no difference what may be the nature of his affliction it is entirely a God-send, and his physician by some peculiar movement or supernatural skill vested in his being, against all reason and common sense cause him to be made whole.

It is the wish of the profession to tell and show the laity that the practice of medicine is not and never was an enchanted calling of mystery; but is based solely upon principles so well understood, that it is no longer a question of knowledge but one of enforcement, and in order to bring into action the golden rules carried in its teachings, there must be perfect co-operation.

I have been given for my subject, a disease that can not be justly dealt with, until the thoughts just mentioned have been brought out, for without co-operation no progress whatever can be made in the management of it.

It is a disease that has his habitat in our little folk; a class whose welfare should concern the nation more to-day than all the others combined.

Congressman Peters of Massachusetts, recently asked: "Whether the children of the United States are worth one-eighth as much as bugs?"

Our bureau of animal industry costs one million, six hundred and fifty-four thousand, seven hundred and fifty dollars. Our bureau of plant industry costs two millions, fifty-one thousand, six hundred and eighty-six dollars.

We are now asking for a children's bureau at an expense of twenty-nine thousand, four hundred and forty dollars, which would by investigating child labor conditions, causes of infant diseases, infant mortality, etc, effect a marked saving in child life.

What the profession is asking to-day is, "Are we to be guided by the higher, more rational and humane motives, or shall our government be run entirely by sharks, who see nothing but dollars and cents and many lives that in no ones pocket but their own? Shall we be led to place a higher estimate on the value of a plant or a dumb brute, than on the child with the living soul for whose pleasure all these things were created, and of such is the kingdom of heaven?

The disease which I am to place before this able body of medical men to-day for discussion is one that ranks first in mortality in children from the third to the eighteenth month of life. A time when more of them are wafted from their earthly habitation in the their onward march to citizenship than at any very springtime of their lives, and retard in other period in the life of man.

It is the disease that is so alarming to so many fond mothers and fathers, who have from the very budding of their infant's existence, watched it day after day, with great anticipation for its future career. When they see it snatched from the glowing beauty of health to an almost prostrate form within a few hours, and their physician informs them their child is seized with what is commonly termed "summer complaint," and acute catarrhal infection of the stomach and bowels, that invades this country every year, about the first of June and makes its exit with the coming of Jack-frost. It is much more prevalent and fatal in the tenement quarters of our large and crowded cities, and mildest in the rural districts.

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*Read before the Daviess County Medical Society.

In the year 1909 it ranked first in the mortality from three to eighteen months.

When the deaths of that year were seven hundred, thirty-two thousand and five hundred and thirty-eight, of these one hundred and ninety-six thousand, five hundred and thirty-four or twenty-six and eight-tenths percent were in children under five years of age—nineteen and one-tenth per cent. were in infants under one year of age, one death out of five was an infant under one year of age, and a little more than one in four was a child under five years of age.

Last year in New York City out of twenty thousand, five hundred and sixty-five deaths, five thousand six hundred and forty-nine were from diarrheal diseases brought on by improper feeding and two thousand seven hundred and ninety-five of these occurred during July and August, proportion of one hundred and thirty-four to one thousand, while in 1902 there were one hundred and sixty-eight in one thousand. Eight thousand babies die every year in New York City alone of diseases that could have been prevented. Six thousand of them die every year of diarrheal diseases. It is estimated that out of this number, four thousand could be saved by teaching the mothers how and what to feed them and how to take the proper care of them.

It is a disease caused by carelessness, ignorance or neglect upon the part of somebody ninety-seven times out of a hundred.

Dr. Holt says, "Out of two thousand fatal cases" under his supervision, only three per cent were exclusively breast-fed children, "meaning by this that only three per cent. of them that did not receive a food carrying with it a poison thrown out by a living organism, a poison as deadly as is contained in the fangs of the most venomous reptile.

We hear the poor heathen's cry, preached from our pulpit but what about the cry of the thousands of these poor helpless babies dying from poisons carried to them by the hands of us who live in a Christian land?

These organisms thrive best in hot weather and in damp, filthy, secluded spots. Particularly prone to thrive in certain articles of diet, more so in sweet milk than any other, having been found to exist in quantities of thirty millions to the teaspoonful of milk.

But wherever they may exist, they may be carried for miles from the filthiest spot, by that ever-annoying house-fly and deposited upon the food of the best kept infant.

The opinion has been that certain changes in the weather, location, or certain factors in the child cause this disease, but now we know that these things play such a role in its causation as is their influence upon germ life. For without the germ there can be no disease. While the disease is caused by the germ, for its growth it must have suitable soil. It will not grow near so readily in the tissues of a child, whose secretions are normally flowing and whose hygiene is properly cared for, as in the child who has been overfed, and whose food has been of a character to derange digestion and whose general lack of hygiene would welcome disease.

The way the germ finds entrance is by being deposited upon anything that may enter the child's mouth. Upon its pacifier, that has been allowed to lay in the dust, upon any of its playthings that it is so prone to put into its mouth, but generally upon its food and drinking water the greatest being the dairyman's sweet milk.

The parts of the system receiving the brunt of this disease are the colon, lower ilium and stomach, though the whole gastro-intestinal tract may become involved.

The main symptoms are frequent thin and greeny stools, consisting of undigested milk, masses of fat, mucus and occasionally a few drops of blood. These conditions often exist for several weeks. The child loses flesh, his cheeks become prominent, his eyes seem sunken in their sockets. There is usually more or less fever but usually not of high degree.

The stomach becomes irritable, after a few days, and there is frequent vomiting. The abdomen shows excessive gas by fermentation.

As to prevention, change of climate and environments rank first, if such be possible, other than this is proper care of a previous disordered gastro-intestinal tract. Stop infected food, bad methods of feeding, ever bearing in mind that an attack of diarrhea and vomiting, especially with green stools may be of a serious nature, if in an infant under eighteen months of age.

Dr. Kerly says, "The main thing is to teach the mother the signification of the symptoms so she will follow directions."

There have been great strides in our large cities through the inspection of our milk supply and by establishing health boards whose duty it is to look after the general hygiene, food, water supplies; also by having regular schools in many of our large cities for the training of mothers. Where the mother can not attend the eldest girl in the family is taught the principles of hygiene, care of infants, etc.

When once the disease has established itself, then of course it behooves us to hold it in check and to build the child's resisting power and destroy the germs' stronghold as speedily as possible.

The surroundings should at once be put in a sanitary condition. If bottle fed, the bottle and nipples should be at once sterilized and be kept in a solution of boric acid, teaspoonful to the pint of water.

All food must be stopped for at least twelve hours. A salt bath must be given with instructions to repeat each day. Clothing must be of light weight and tidy.

The intestinal tract should be cleaned out with at least two drachms of castor oil. If there be much fever and fermentation, mild chloride of mercury may be given; one-half grain every two hours until one and one-half grains have been given.

This should be accompanied by colonic irrigation of boric acid or saline solution. If the stomach be very irritable, lavage may be used but seldom required. An intestinal antiseptic may be given at next visit; sub-nit. of bismuth, salol in one grain doses, etc. After twelve hours, feeding may be resumed, but sparingly.

Some well soured butter milk or diluted sweet milk with cit. of soda sufficient to lessen the curdling, may be given. Whey or barley water may be used.

There is a large list of proprietary foods, but these are only intended for the child in the cities who can not have pure cow's milk.

Two drops of diluted HCl. and three drops of tincture of nux vomica every four hours after nursing as a stomach tonic and stimulant is a splendid treatment. The colonic flushing should be repeated as often as the condition of the bowels shall demand. For relief of pain, hot or cold compresses to abdomen are far better than the opiates if they shall relieve. If the case is not too far advanced flushing the bowels with oil and changing from sweet milk to buttermilk after twelve hours without either is all that is generally required.

ASCITES.*

By C. V. Hiestand, Merrimac.

Ascites is an accumulation of free fluid in the peritoneal cavity. It is either (1) a part of a general dropsy involving pleura, pericardium, and the subcutaneous tissues of the body, or (2) a strictly localized dropsy caused by disease in the peritoneal cavity. Class (2), if of long standing, may secondarily cause oedema of the legs, as a result of the anemia which usually develops, or as a result of pressure on the iliac veins. Class (1) includes diseases of the heart, lungs, kidneys, and blood. Class (2) includes atrophy of the liver due to external pressure or growth, abscess or echinococcus of the liver causing pressure on the portal vein, atrophic and hypertrophic cirrhosis of the liver, cancer and syphilis of the the liver, and amyloid liver. Tumors of the stomach and pancreas, peritoneal adhesions and enlarged lymphatic glands may cause ascites. Chronic peritonitis, either simple tuberculous, or cancerous, and perihepatic chronica are sometimes causes of ascites. Leukaemia and splenic anaemia are occasionally associated with this condition; and so are also intrathoracic growths and mediastino-pericarditis. A small ascites may occur in apoplexy; it has also been noted in intestinal obstruction. Occasionally on the post-mortem table there have been found, in the different cavities of the body, collections of fluid which had not been demonstrated by physical signs during life. Immediately preceding death there is an intense congestion of the viscera which frequently results in an outpour of serum. This condition, when involving the peritoneal cavity, is termed preagonal ascites.

PATHOLOGY.

From an etiological standpoint all varieties of ascites may be classed under three heads:

I. Ascites due to stagnation of blood in blood-vessels.

2. Ascites due to interference with the escape of lymph.

3. Ascites due to disturbance of capillary secretion, i.e., alteration in the walls of the capillaries.

In certain diseases we have combinations of the above causes; for example, a chronic heart disease with incompensation may secondarily produce changes in the capillary walls, as a result of lack of nourishment resulting from the imperfect renewal of blood.

The third class is distinctly a conception of modern pathologists and will require more detailed discussion. The former belief that the process which resulted in dropsy was merely a filtration of fluid through an animal membrane has been discarded. It is now held that the capillary walls are to be regarded as living organs with a capacity for secretion.

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*Read before the Muldraugh Hill Medical Society.

The prompt passage of the crystalloids from the blood and the lymph is accomplished with the aid of a force inherent in the capillary walls. The fact that the proportion of salts or of sugar in the lymph is often greater than that in the blood suggests a capillary secretion. The fact that the proportion of albumen is pure transudates in different parts of the body varies considerably, points to a differing constitution of the vessel wall in these several regions.

Heidenhain believes that the specific function of the capillary walls plays a controlling part in the formation of lymph. Whenever the removal of lymph fails to keep pace with its formation, dropsy results. Heidenhain has shown that the formation of this material can be influenced by various substances present in the blood. Subcutaneous injections of an infusion of crabs or leeches so increased the transudation of water from the blood-vessels into the lymph that the quantity of lymph flowing from the ductus thoracicus was increased to fifteenfold. This exciting substance must stimulate the specific functions of those capillary cells in the capillary walls which secrete the lymph. Class 3 includes the varieties of ascites usually termed inflammatory and cachectic. In the majority of cases the changes in the vessel walls are the result of protracted ischaemia, of imperfect oxygenation, or of chemical changes in the blood, or are due to the effect of high or low temperature or to active traumatism. It is also probable that either irritation or paralysis of the vaso-motor nerves may lead to an increased vascular secretion. The exact changes in the vessel walls are not known, but there are probably alterations of the endothelial cells and of the cementing substances between them. It is quite possible that Class 3 may include Class 1 and that our so-called pure transudates of obstructed circulation are capillary secretions instead of filtrations, the capillary cells being stimulated to secretion by irritating substances circulating in the blood. Increases of hydremia with oedema, Ziegler looks upon the increase of the amount of water in the blood as only one factor which is favorable to the occurance of oedema. In cachectic and nephritic subjects oedema occurs often when no hydraemic plethora is present, and conversely oedema may be absent when hydraemic plethora is present. So it is held that the oedema of cachectics and nephritics is due to alteration in the vessel walls caused either by the hydrated condition of the blood or by a poison circulating in the blood.

Two factors are present as causes of ascites in inflammatory changes in the peritoneum, viz: alterations in the walls of the blood-vessels, and the destruction of a large number of lymphatic vessels through which the fluid, secreted in excessive amounts, should be carried. The ascites almost invariably associated with perihepatitis chronica is to be explained by the coexistence of a chronic peritonitis. Ascitic fluid is either a transudate or an exudate. Transudates are found in non-inflammatory conditions and are usually light yellow in color, while exudates are found in inflammatory conditions and are darker in color. There are essential differences in their composition, a fact which may be of aid in diagnosis. Peritoneal transudates have a specific gravity varying between 1.005 and 1.015, while that of exudates frequently reaches 1.030. The difference in the specific gravity is due to the difference in the amount of albumen; exudates contain from 4 to 6 per cent. while transudates contain from 1 to 2 1-2 per cent. Transudates do not coagulate spontaneously; in exudates a coagulation is frequently observed after standing for twenty-four hours.

Microscopically the transudate shows only a few isolated leucocytes and endothelial cells derived from serous surfaces and undergoing fatty degeneration. Exudates contain many more formed elements and may be serous, sero-fibrinous, sero-purulent, purulent, putrid, hemorrhagic, cholyous, or chyloid.

Following the administration of potassium iodide it is possible to obtain the iodine reaction in ascitic fluids.

ETIOLOGY.

Atrophic cirrhosis of the liver is the most common cause of ascites. It is less commonly found in the hypertrophic form. The frequency of ascites in diseases of the heart and kidneys is illustrated by the statistics of 300 cases of general dropsy taken consecutively from the post-mortem books of St. George's Hospital, London, from 1888 to 1897. One hundred and sixty-three of these cases were due to affections of the heart and aorta. As regards ascites, 1 in 2.5 of the cardiac cases and 1 in 2.2 of the renal cases (not lardaceous) presented this condition. Any of the organic heart lesions when incompensated may be followed by ascites. It is most frequently associated with mitral stenosis. The pleura and peritoneum are especially liable to dropsical invasion with the large white kidney of nephritis and the advanced granular kidney in which secondary cardiac changes have been added to the renal. Diseases of the lungs, such as emphysema and fibroid changes, may cause ascites by obliterating pulmonary vessels. This results in an increase of pressure in the right heart, and secondarily in the veins and capillaries, with transudation.

DIAGNOSIS.

On inspection, in ascites of moderate degree, with the patient lying down, the abdomen is full at the sides and flat on top; in the upright position it projects below the navel. If the ascites is enormous there is a uniform distension and no change of shape with change of position. The superficial abdominal veins become enlarged in cases of long standing. In cirrhosis of the liver the veins surrounding the umbilicus may become very prominent and form the caput medussae. When the amount of fluid is excessive there is a marked hernial protrusion of the navel.

On palpation fluctuation is obtained by placing one hand flat upon one side of the abdomen, and tapping gently on the opposite side with the other, as in direct percussion. A similar sensation may be felt, however, if the abdomen be very fat or tympanitic. In order to exclude this pseudo-fluctuation an assistant presses the edge of his hand along the linea alba; this maneuvre does not interfere with the transmission of the wave in ascites, but effectually interrupts it in the other conditions mentioned.

Percussion in the horizontal position elicits dullness at the sides, and tympany over the upper and middle portions of the abdomen. The fluid seeks the dependent parts and the intestines float to the top so far as the mesentery will permit. The area of dullness changes with the position of the patient. On assuming the side position, dullness is obtained over the lower side and typmany over the upper. If the ascites is enormous, the intestines and stomach do not reach the surface, consequently there is dullness over the entire abdomen. The amount of fluid necessary for demonstration varies with the size and sex of the patient.

Toma's sign has been employed to distinguish between an exudate and transudate, or inflammatory and non-inflammatory conditions. In inflammatory conditions of the peritoneum the mesentery contracts, drawing the intestines over to the right side. As a result, the patient assumes a horizontal position, tympany is elicited over the right side and dullness over the left.

DIFFERENTIAL DIAGNOSIS.

The ascites of heart disease is associated with a dusky skin, while that of Bright's disease is associated with a pale skin. Diseases of the heart, lungs, kidneys, and blood should be excluded by careful examination. A satisfactory examination of the abdomen by palpation can be made only after the withdrawal of the fluid. Palpation is then very easy on account of the relaxed abdominal muscles. An enlarged liver or spleen, growths on the liver or in the neighborhood of the portal vein can then be easily felt. At times the nodules of tuberculous or carcinomatous peritonitis can be made out. If primary cancer or tuberculosis is found in other parts, the problem is simplified. The great value of microscopical examination of the fluid, as a material aid in differential diagnosis, should be strongly emphasized.

The quantity of fluid varies greatly with the disease, but is usually largest in atrophic cirrhosis of the liver and in perihepatitis chronica. W. Hale White reported the case of a patient with perihepatitis who was tapped thirty-five times; the total amount of fluid withdrawn was seven hundred and ninety pints; the total amount taken out at one time was thirty-one and a half pints. Putz reports a case of atrophic cirrhosis of the liver which was tapped forty-seven times, with the removal of twelve hundred litres of fluid, during a sickness of four years duration. The writer remembers a case of cirrhosis of the liver of some two years duration, from which he removed thirty-six pints of fluid at one time—this case was subsequently tapped three times.

PROGNOSIS.

The majority of the patients die within two years. Some cases associated with uncompensated heart lesions recover under cardiac treatment and live for many years. Occasionally a case of cirrhosis of the liver recovers, if a sufficient collateral circulation is established. Numerous cases of recoveries have been reported, of tubercular peritonitis with ascitis, treated by laparotomy. Many theories have been advanced to explain the cause of recovery in these cases. There are tuberculous diseases of the peritoneum which heal spontaneously. Hildebrandt believes that laparotomy only increases the natural healing factors. This author believes that the venous hyperemia which ensues is the important factor in the healing of tuberculous peritonitis. Following operations he has observed an involution of the tuberculous process, and in isolated cases a complete healing with disappearance of the tubercles which he had seen in the first laparotomy.

TREATMENT.

The ascites, if troublesome, should be relieved immediately and treatment directed at the causative disease instituted if advisable. The first is most successfully accomplished by the simple procedure of tapping. This operation is strikingly free from danger of infecting the peritoneum. The operator should always empty the bladder by catheterization before attempting to withdraw the ascitic fluid.

Aspiration, or the introduction of Southey's tubes, may be resorted to.

If the diagnosis of tuberculous peritonitis seems probable, then laparotomy should be performed. The fluid may collect so rapidly that it is necessary to tap every two weeks or oftener, but frequent tappings do no harm. In ascites due to heart disease and anaemia, treatment appropriate to these diseases should be given. The use of diuretics and hydragogue cathartics is usually less effective in ascites than in pleurisy with effusion. The value of the dehydrating effect of dry diet should be emphasized. Care should be taken in selecting appropriate cases, since it is well borne in cardiac dropsy and poorly borne in renal dropsy.

ANTHRAX AND ITS TREATMENT.*

By W. A. Ligon, Louisville.

I was taken by surprise when our Secretary asked me to read a paper at our April session at Uptonville, as it has been so long since a similar request had been made of me. I had begun to think that a blue pencil had been drawn across my gray matter; and that the word, *Icus* was written opposite my name on the register. Not that I was anxious to display my imaginary wit or beauty: or to demonstrate my ability to cope with the real writers on subjects medical. That I do not claim. Unlike St. Paul, who spoke to them that knew the law, I speak to them who know not the treatment that I shall lay before you to-day. The subject which I wish to discuss, is Anthrax, or carbuncle and its treatment. I wish to confine my paper, however, to the local aspect, and not to its systemic manifestations, as I have nothing new to offer after it has invaded the internal organs.

The etiology of carbuncle simplex, seems to be a mooted question, but as to the local anthrax there seems to be a general agreement among medical men. I know that I am stepping upon ice that is thin, but should I break through I trust that some good brother, present, will sympathize with me enough to pull me out. My own idea is, that when the anthrax invades the general system the medical man has a job on his hands; but when it is local we have a sure remedy, when seen in time. Or if a carbuncle simplex, where there is no bacillus anthrax, the same treatment renders the progress in either case, very favorable ;though it is declared by some that there is no carbuncle without the anthrax bacillus; and that the prognosis is very grave. A few years ago, the Hardin County Medical Association was asked the question, whether anthrax and carbuncle were one and the same thing and if so, did every carbuncle contain the malignant insect, both questions being answered in the affirmative. That opinion was unanimous save two. That was before I had adopted my present exclusive treatment. So I with others had great annoyance, both to ourselves and to our patients; mostly because of the great pain caused by the knife, caustic, etc., though personally I had had no deaths. Since that time I have had the pleasure (sic) of having had one carbuncle myself, and, oh what a blessing that there was only one. My presence at the next meeting of the association after my recovery provoked the remark from the lamented Dr. Warfield, that since he had been injecting carbolic acid he had had but little trouble. So in my mental perigrination I reasoned: that crystal phenol does not cause pain if kept off the skin; nay, rather if it is a local anesthetic, while diluted acid, whenever applied produces great pain. I knew that alcohol, in any form as strong as whiskey, was a direct antidote for carbolic acid. Therefore my sure and painless treatment is the result: I call for a teacup of hot water (to keep my hypo warm), I saturate a pledget of cotton, or cloth with alcohol or whiskey, I then make a hole in the middle of the cotton, which I place over the carbuncle, if it be ready for operation, which you must know by the two to five apertures, having formed upon its apex. I then place my hypodermic into the cup of hot water, then put some carbolic acid crystals into a teaspoon, hold them over a lamp till all dissolved, then draw some into the hypo and after having adjusted the needle, discharge some to see if all is well. Now I introduce my needle into one of these apertures, discharge a small quantity in each, except one, into which you go deeper, and discharge q.s. to surcharge the space inside so as to see the acid running over to become neutralized by the alcohol, withdraw the needle and sprinkle a little acetanilid or boric acid, and apply a bandage loosely. Then about the third day the substance will rot and drop out. Then dress as any other sore and my patient is usually well in a few days.

I have been using this treatment for many years and have my first failure yet to see, or the first patient to tell me that there was any pain of consequence, to say any, from the first to the last of the treatment.

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*Read before the Muldraugh Hill Medical Society.

Try it brethren, but don't use the diluted acid; and your patients will rise up and call you blessed.

SANITATION.*

By Curran Pope, Louisville.

To the everlasting credit of those men working in sanitary sciences, hygiene and sanitation have converted some of the pest holes and death hollows of the world into spots of safety and blooming valleys, have made urban populations possible and swamps residential. Without hygiene and sanitation, modern life would be hardly livable, and the harvest of Death would be a constant and increasing toll, day after day and year after year. These two factors are the key stone of the arch and the foundation piers of the structure that enables men to-day to rear houses of business, his temples of pleasure, and to create and complete those monumental structures, whereby the seeming indestructable forces of nature have barred his passage. The results of this work and the stupendous problems solved have not left those who have accomplished the work unscarred, nor has it been completed without those deaths and losses that should not leave these heroes "unwept, unhonored and unsung," but their names and their deeds should be blazoned forth in letters of burnished gold, framed in living fire, burnt unforgetably in the hearts of the people and a source of national pride from generation unto generation.

The Stars and Stripes need not be dipped, nor should this haughty banner be dragged in the dust of humiliation, but on the contrary, to probably no nation on the face of the globe does more credit belong than the the noble workers in hygiene and sanitation, who hale from this United States of ours and whose achievements have turned eyes of the nations of the world and of millions of peoples upon their achievements. Often nations wish to borrow our hygienic and sanitary doctors and engineers and we feel loathe to see them go into the plague ridden and pestiferous places of the earth for we feel, in the language of Polonius, the fear that "the loan may lose both itself and friend." But these men know no fear. Calmly, sturdily, fearlessly, they beat and conquer, and if in the silent battle with disease they are called upon to sacrifice their life, they "reck not of the wounds," nor count the dangers, nor fear the deaths the plague and pestillences bring. Without the crash of brasses, without the booming of cannon, without the plaudits of the multitude, these fight that battle and oftentimes pass away, to be classified among the Unknown. Let us realize and let us appreciate that these men should be grouped with the immortal heroes.

THE DISTRIBUTION OF BIOLOGICAL PRODUCTS UNDER THE DIRECTION OF THE KENTUCKY STATE BOARD OF HEALTH.

The physicians of the State are reminded that antitoxins, bacterins, vaccines and curative serums, which may be required for the treatment of indigent persons, can be secured at the expense of the several counties in the State. The local boards of health with the consent of their county judge have power under the law to spend money for this purpose.

In order to make readily available to the Health Officers in all sections of the State a complete and reliable line of biological products, at best Board of Health prices, the State Board of Health has made special arrangements with H. K. Mulford Company, Philadelphia, for the distribution of their well-known and standard line. These biologicals are dispensed under special Board of Health label, and a supply is carried in the office of the State Board of Health at all times.

Requests for material should therefore be sent to the State Bacteriologist, State Board of Health, Bowling Green, Ky. Later the Board of Health reports to the H. K. Mulford Company the amount of goods dispensed and the H. K. Mulford Company sends a bill and collects for the same direct. Owing to the very special prices extended, it is understood that prompt payment is required.

A list of the more important biological products, together with their indicated use, and the special prices at which they will be furnished to the local health officials of Kentucky, for the treatment of indigent persons, as provided by this special arrangement will be furnished on request.

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*Read before the Muldraugh Hill Medical Society.

THE DOCTORATE ADDRESS TO THE GRADUATING CLASS OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISVILLE.

By JOSEPH M. MATHEWS, Louisville.

I was just wondering if those who have honored us with their presence caught the significance of this great gathering here to-night. If the people of Louisville had yet grasped in their thoughts the fact that here in their midst was the beginning of what is to prove to be one of the greatest Universities in this country: whether they have yet contemplated what this meant to them individually and as a city. I once heard a man remark, "that to judge of the merit of a town, first visit its schools, look at its churches and inspect its cemetery." Much truth in this, showing respect for both the living and the dead. Well I would go him one better than this and say that to judge of the prosperity of any pretentious city consider these three things, and then ask have you a university? The time has arrived that unless this be true of any metropolis, it must fall to the rear by comparison. Look you to your neighbor cities, Cincinnati, St. Louis, Chicago, and Indianapolis, in this regard and tell me if you can rest content. All honor to the mayor for his pronounced views and decided efforts to aid this magnificent project. We have here now nearly *solely* by individual effort, an academic, law and medical departments well launched and what is needed for their perpetuation is, money. Could the city, its people, make a better investment? May I ask that you who are here to-night become missionaries in the splendid cause. Talk to the city's solons along this line and elbow the rich that they may consider it an honor and privilege to give to this cause. But one thing I wish you to understand: that these young gentlemen here who are about to receive the degree, and this faculty, represent one department only of the university, that is much older in existence than the majority of those present. One that shines, and has shone, for these many years, with great brilliancy, the generating power being within its own four walls and not by any reflected light. It has borne the brunt of battle ever since its organization in 1837, and to-day ranks a No. 1 with the powers that be. Its faculty in the past has included such names as Gross, Drake, Flint, Powell, the Yandells, and a host of others whose names are immortal on the scroll of fame as teachers. Nor has time effaced distinguished men from its teaching list for there are members of its present teaching faculty of national and international fame. Alumni of this department are located in every state of this Union, and many of them are teachers, authors, surgeons, and practitioners of note. It pains me to say that only one of the faculty of 1867, the year that I had the honor of being in the graduating class, now lives, that one is Professor J. M. Bodine the erstwhile Dean of the University and now its honored president. May he live to round out at least an hundred years in peace and quiet commanding, as he has always done, the love of all who know him.

Young gentlemen, you are to be congratulated upon two distinct things: first, that you have been permitted to graduate under such auspicious conditions from the school of which I have made mention—you are prepared to verify or deny any or all the statements that I have made. You have delved into its laboratories, sat at the feet of these teachers, received its clinical as well as its didactic instruction: been made aware of the value of autopsies, vivisection, miscroscopic, macroscopic and chemical analyses and to-night as you wander down the street you would be prepared to respond to, and correctly attend any emergency call. Secondly, you are to be congratulated on this era in medicine. Contrast it with what it was only several decades ago. Then medical colleges only required an attendance of eight months, four each for two years. You have attended eight months each for four years. Then laboratory instruction was a myth and clinical knowledge unknown. You have been drilled in both. Then preventive medicine was not mentioned, to-day it is of prime importance. The anti-toxins were not recognized, and disease went rampant to its termination. To-day the whole system of medicine has been revolutionized. All of us, even the laity, dwell upon the marvelous advance of surgery, forgetting that internal medicine has not only kept abreast but often out-distanced surgery. Modern scientific medicine which applies the experimental analytical, scientific method, which demand proof, reproduces the same conditions in animals, and applies the remedies experimentally, is but half a century old. How fortunate that you at the beginning of your practice are in full possession of all the facts. All notions of disease; its nature, its causes, its rationale of cure, have undergone a complete revolution, and you are the benificaries in its application.

And now young gentlemen, let us turn from war to peace, from the consideration of disease and its treatment, to the *prevention* of disease. You will understand, as I proceed, that my purpose in considering this topic is a double one. First, that you might appreciate its bearings, and that those here assembled might be given a little light into this all important subject. I purpose only to state a few facts barren of all fancies. As a prelude let me assert, what has often of late been asserted, that one-half of the diseases that afflict the human race are preventable. Could you go back in memory you would know that time was when cities, empires, were nearly desolated by such diseases as the plague, smallpox, cholera and yellow fever. To-day how little you hear of any ravage—from either one of them. Did you ever stop to think why this is. The answer is simple. They have been shorn of their terror by the hand of science, they are now prevented, not cured. But coming to more modern things, and conditions. Every reader of history knows how futile was the attempt of the French to build the Panama Canal, and they were prevented by the most infinitessimal of causes, microorganisms, or germs, of diseases, those that caused malaria, dysentery and yellow fever. The ranks were hewn down more rapidly and effectually than they would have been by cannister or bombs. Why is it that it is now nearing completion under American guidance? The answer is, there stands Doctor Gorgas, he destroys the cause and these diseases are prevented. You, the youngest of you, can remember when Cuba was the hotbed, from which yellow fever would invade this country and at the appearance of the first case in New Orleans, hundreds, yea, thousands, of citizens would wend their way to safer climes, whilst those that were compelled to remain, died in countless numbers every day, and the epidemic only ceased when the supply was exhausted. Why it is that the citizens of that Southland can now lie down to peaceful slumber, never disturbed by the gaunt yellow figures, even in their dreams? Major Reed sleeps the sleep of a martyr after being stung to death in his improvised cage, in order to prove to the world his theory that yellow fever was produced by the sting of a certain kind of mosquito. A shaft of marble, erected by the medical profession, marks the spot where his body lies. He died that others might live.

In the Civil War between the states, more men died of preventable diseases than were killed by bullets. Even in the late Spanish war you will recall the ravages of malaria and dysentery and typhoid fever, all preventable. It was left to the Japanese, in their war with Russia, to teach us an invaluable lesson in the prevention of diseases in troops on the march, or encamped. By comparison of losses with our's in the Spanish-American war, we were put to blush. The simple rules of sanitation and public hygiene, which were carefully adhered to, told this tale. It has become a trite saying, being first used by the Secretary of the State Board of Health of Kentucky, "To have typhoid fever is a crime," meaning, of course, that being preventable no one has the right to endanger the lives of others by acquiring it. You are familiar with the fact that by order of the President of the United States, the large body of troops stationed in Texas was immunized and that although they were surrounded by the agents that produced the disease, only one had it, and this one could be accounted for. But outside this manner of protection, it is well known that during an epidemic or endemic of typhoid fever, the careful observance of public hygiene will prevent its spread.

It is said that the decline of the Roman Empire was really due to the prevalence of malaria, that sapped and undermined the health of its people, rendering them inert in both body and mind. Look you, now that its cause has been ascertained, how gradually its disappearance is taking place. And so these simple rules for the protection of the public, as well as individual health, extends to a host of diseases such as, outside those mentioned, colds, catarrh, consumption, grippe, diphtheria, pneumonia, lockjaw, measles, scarlet fever, whooping cough, mumps, leprosy, infantile paralysis, hookworm, and many others. You are to become the custodians of your peoples' health. A sentinel each one of you on guard all the time, watching the enemy that at its first approach you can forestall and make the first attack. Now all this cannot be accomplished without the full cooperation of, and by, the people. You must therefore become a teacher, an instructor, and educator of the people along these lines. Look what was accomplished in combatting the ravages of the great white plague. After the people were educated as to its cause and how to prevent it. Why the medical profession has shifted much of the responsibility for the management of this disease to the laymen—or to speak more properly—to the *lay women*, for it is to them mostly that the credit is to be given. Then as this education of the masses goes on, you are to join with them in getting the ear of those in authority, and securing the needed appropriation to carry on this life-saving station. The biggest proposition that ever confronted the health officers is how to get the money to carry on this work. I leave it with you to solve.

While you are waiting for the cash to come in, you must go on inspecting the schools, seeing that the churches, theatres, picture shows, bakeries, banks, stores, factories, offices, street cars, courthouses, jails, etc., are properly ventilated and surrounded by the proper hygienic conditions. Don't forget to swat the fly and destroy the habitat of the mosquitoes. Remember always that these are the conditions that breed disease. Mark Twain said that, "the doctors took life more easily than any other class of men." Were he living we could prove to him that the doctors can now save life just as easily.

One must be very sure of his ground to dispute with Col. Roosevelt, but I must be pardoned in taking exceptions to the general adoption of one of his most pronounced declarations, namely, against race suicide. A nation's prosperity does not depend upon the *number* of children born, but to the *kind* of children. Every strong, healthy child is an asset to the commonwealth; every diseased puny weakling that is born is an expense and an incumberance. The one makes its own way in the world, fit for a good citizen or soldier, as needs be. The other is a misery to itself, its family and becomes a care of the state. Every life is a unit representing profit or loss. Before encouraging the birth rate, it must be seen that the child is to have a square deal, not only must its environment be such as to protect its health, but before its birth it must be protected just so far as is possible in having in its blood that which goes for good nutrition and health. Hence the parentage of the child is of absolute importance. The speaker many years ago urged that no man should be allowed to marry unless he could present a clean bill of health. Let me beg of you young gentlemen to give much study to Eugenics and its application to the truths that I have mentioned. For the sake of the children, however poor they should be, surrounded by those health-giving principles that insure good health that you know so well, pure air, pure water, and pure food. "Let a little sunshine in" that the darkness and the dampness of the slums may be dissipated. Let us try and get back to the old Viking days, when every man counted for something, when brain, brawn and muscle held sway, and were accounted worth while.

As you go out into the world to make battle with disease and all conditions that cause it, let me venture a little advice. Some one has said, "The real proof of a manly man or a womanly woman is the consideration for others." Be manly men, then, not fearing results or criticism. In life's battle it is not the critic who counts, not the man who points out how the strong man stumbles, or when the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust, and sweat, and blood, who strives valiantly; who errs and comes short again and again, because there is no effort without error and short-coming, but who does actually strive to do the deeds; who at the best knows in the end the triumph of high achievements, and who at the most, if he fails, at least fails while daring greatly.

MEDICAL WITNESS.*

By Judge James Breathitt, Hopkinsville.

In this paper I do not hope to say anything original or new. Law is not found in our heads as a natural product. It is found in the statutes and precedents established by the courts of last resort, and, consequently, in writing on a law question we necessarily have recourse to the books. I therefore trust that if anything I shall say shall sound familiar to you that you will not think that I am attempting to impose upon you the ideas of others as original with me.

The professions of medicine and surgery have made most wonderful progress in the past fifty years. The achievements in medicine have been so remarkable that a mastery has been gained over many diseases which in former times were considered certain death. Smallpox, yellow fever and cholera have almost entirely disappeared as epidemical diseases, and it now looks as if typhoid fever has been demonstrated to be a preventable disease and that it will no longer exact its annual toll of human life. But great as has been the advance in medicine, surgery has made still greater if possible. The knife in the hands of the skilled surgeon of to-day in ordinary cases is no longer dreaded. He has done some wonderful things. He has removed the stomach, parts of the liver, and the kidney, and the patient has recovered and lived. He can take the bone out of the leg of a corpse and transplant it into the body of the living where it will grow and perform its ordinary functions. He can transfer the skin from one person to another, and it will grow naturally in its new situation. I was reading an article the other day where one of these scientific surgeons tried the experiment of engrafting the skin of a chicken on to the body of a human being and it was a success. The only inconvenience resulting was due to the fact that a crop of feathers grew on the skin. But I did not come here to eulogize these learned gentlemen. I am here to read a practical paper on a practical subject, "The Medical Witness."

The medical witness in all civilized countries is an important factor in the discovery of truth and in the enforcement of justice in the courts. Without his aid the guilty would often escape punishment, and the innocent would be sometimes convicted of crimes and unjustly punished. The testimony of medical witnesses in some instances furnishes the only evidence and in many cases the first information of crime. The professional man has an important duty to perform in every case where death is caused by violence. For instance, a man is found dead in his room. There is no appearance of violence and no evidence of a struggle in the room. Now it is plain that the death was caused by natural causes or by poison. The intelligent physician will readily recognize his duty in such a case. When called in he should make a careful and thorough examination of the body in order to discover if possible the cause of death. Should he conclude from the appearance that it was the result of poison he has probably done all that his medical duty would require. But is this the full measure of his duty, under the circumstances? I think not. As a citizen he owes a duty to society and should realize that he will in all probability be required to appear before the coroner's inquest and perhaps the circuit court to give an opinion as to the cause of death, and if the result of poison whether or not it was self-administered. In some instances, the latter may be impossible to determine. In others it may be made evident by facts and circumstances easily observed by a careful and intelligent man, at the time. The professional man in attendance should make inquiry of those present as to the life and conduct of the deceased immediately preceding his death, and as far as possible, ascertain his relations to his family, his financial condition, state of health and whether or not there was any apparent cause for suicide. If there are any liquids or foodstuffs present to which deceased had access they should be carefully examined, their character noted and if any poison or substance deleterious to health are discovered or suspected they should be taken charge of and turned over to the proper authorities. It should also be ascertained by whom the food was prepared or liquid furnished to the deceased. This may strike the average member of your learned profession as a species of officiousness, not justifiable on your part. But these precautions cannot be avoided without subjecting a medical witness to unjust criticism and in some instances to a charge of neglect and indifference. Your position and professional duties force you to answer such calls, and it follows almost as surely as the night follows the day that you will have to appear as a witness before the constituted tribunals of your state, should some one be indicted for murder.

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*Read before the Christian County Medical Society.

The apparent officiousness (and it is only apparent) is justifiable on the basis of your duty to the Commonwealth and yourself. It is, therefore, important that you inform yourself as to all the facts and circumstances attending the death.

Take another case: A man is found dead in a room with a gunshot wound in the head. A pistol is found by his side. You reach the scene after the death. If your observation is confined to these self-evident facts, your medical duty would be fully performed by an examination of the wound and the discovery that the man died from a gunshot wound in the head. If you limit your inquiry and observation to this point, you have performed a useless task. Any man present of ordinary intelligence could tell that much. I submit that this is not your full duty and that it falls far short of it. (Should you come to testify with no better preparation, you would justly deserve the imputation of indifference.) In order to prepare yourself to make an intelligent witness either for the Commonwealth or the defense, a critical examination should be made of the body, in order to form some idea as to when life became extinct and approximately as to when the wound was inflicted. The wound should be probed and its range determined, if practicable, in order to be able to state whether it would produce instant death, or the length of time a man would live after receiving it. The body being discovered and its appearance indicating that death had occurred only a few minutes previously, it becomes of paramount importance to know whether the death was immediate or postponed for a period. This for the reason that the defense of an alibi frequently depends on a very short time. If death in the case supposed, would result immediately and the accused could show that he was at a different place when the body was discovered, and it was evident that death had occurred only a few moments before the discovery, and that it was impossible for the accused to have reached the point where he was seen, in so short a time, the alibi would be well established. On the other hand, if the wound would not ordinarily result in death until a lapse of time, and in which time accused could have reached the point where seen, the alibi would be destroyed, and there being other sufficient evidence conviction would probably follow.

The medical witness is frequently among the first to reach the scene and in the case supposed, in the absence of any known facts, showing murder, the question may arise as to whether or not this is a case of suicide. It is, therefore, important that every fact and circumstance should be noted by the medical witness. The condition of the body, the clothes, the furniture in the room, the floor and the walls should be carefully examined for any evidence of a difficulty or struggle. Should blood stains showing the impression of the human hand appear on the wall or furniture in different parts of the room, this would strongly indicate a struggle, and an effort on the part of deceased to escape his assailant after he had been wounded. After such an investigation, a medical witness is prepared to give testimony, not only as to medical and surgical opinions, but as to facts which may lead finally to the discovery and conviction of a murderer.

It is sometimes your unpleasant duty to make a post-mortem examination to ascertain whether a person has died from poison, or from natural causes. I shall not undertake to tell you how this should be done, as you fully understand the modus operandi, but it is often necessary to have the stomach and its contents analized and here the medical witness will be confronted with grave difficulties if he is not exceedingly careful in taking care of the stomach and other parts of the body which he desires to analyze or to have analyzed. If by any chance the stomach or its contents has been so situated as to come in contact with any poisonous substances after its removal, the analysis would be of no value as evidence. For instance, if arsenic was the suspected poison and the stomach or parts analyzed were permitted to come in contact with any vessel which had contained arsenic the evidence would be of little, if any, value.

A noted writer on medical jurisprudence, in writing on this subject, makes the following suggestions: "Supposing that during the examination the stomach and viscera are removed from the body they should never be placed on any surface or in any vessel until we have first ascertained that the surface or vessel was perfectly clean. If this point be not attended to it will be in the power of counsel for the defense to raise a doubt in the minds of the jury whether the poisonous substance might not have been accidentally present in the vessel used. This may be regarded as a very remote presumption; but nevertheless it is upon technical objections of this kind that acquittals follow in spite of the strongest presumptions of guilt. This is a question for which every medical witness should be prepared whether he is giving his evidence at a coroner's inquest or in a court of law. Many might feel disposed to regard matters of this kind as involving unnecessary nicety and care, but if they are neglected it is possible that a case may be at once stopped: so that the care subsequently bestowed upon a chemical analysis will be labor thrown away. Evidence of the presence of a poison in the contents of a stomach was once rejected at a trial for murder, because they had been hastily thrown into a jar borrowed from a neighboring grocer's shop; and it could not be satisfactorily proven that the jar was clean and entirely free from traces of poison (in which the grocer dealt) when used for the purpose." I also read of another case in which the search for arsenic in a body failed to detect that poison, but where *zinc* in considerable quantities was found. It turned out, on inquiry, that the stomach, etc., had been carelessly thrown into an old tin can, which had been formerly used for holding zinc paint, before being sent to the analyst. This analysis was very properly rejected. When a man is on trial for his life, as in murder for poisoning, any reasonable doubt should be solved in his favor.

There is one other point to which I would call attention. Not only must clean vessels be used for any liquid detained for subsequent chemical analysis, but care must be taken that the identity of a substance is preserved, or the most correct analysis, afterwards made, will be inadmissible as evidence. I cannot better convey this idea to you than by quoting again from the learned writer referred to. "The suspected substance when once placed in the hands of a medical man, should never be out of his sight or custody. If he has once let it out of his hands, and allows it to pass through the hands of several persons, then he complicates the evidence for the prosecution, by rendering it indispensible for those persons to state under what circumstances it was placed while in their possession. The exposure of a suspected substance on a table, or in a closet or room, to which many have access, may be fatal to its identity; for the chemical evidence, so important in a criminal investigation, will probably be altogether rejected by the court. Whenever any article is reserved for analysis, care should be taken to attach to it immediately, or to the vessel containing it, a parchment or wooden label, upon which is plainly written in ink, the name of the deceased and the date of removal, including the day of the week and month. This is especially necessary when there are two or more articles for analysis. I have known the greatest inconvenience to result from the neglect of this simple precaution."

A striking illustration is afforded in the case of the State of Virginia vs. Mrs. E. E. Floyd, charged with poisoning her daughter with arsenic. At the trial, it was found that the person who had conveyed the stomach to the analyst, had died in the meantime. Although, several grains of arsenic were said to have been detected, still, as the identity of the stomach could not be positively established, the court very properly ruled out the evidence for want of this single link in the chain.

Assuming that you have selected a perfectly clean vessel for the stomach or its contents it should then be securely sealed up to prevent deterioration or drying by evaporation. It is only in this way that a chemical analysis valuable as evidence can be obtained. The articles intended for analysis should not be wrapped in any kind of colored cloth. And in this connection I cannot do better than quoting again from an experienced writer on the subject: "Some kinds of calico are dressed with arsenic *and starch pastes,* and many kinds of wrapping paper as well as wall paper are strongly impregnated with this kind of poison. An observation made by an expert on this subject shows that this is not an unnecessary precaution. This gentleman was engaged in examining the body of a child in order to determine the cause of death. The organs were healthy and as no sufficient cause presented itself, he removed the stomach with a view of making an analysis of its contents. He was suddenly called away and to preserve the stomach he wrapped it in a piece of paper (used for papering rooms) placing it on the uncolored side, and he locked it in a closet until the following day. Assisted by a friend, he then analyzed the contents and found a trace of morphia with a pretty large quantity of arsenic. As the symptoms from which the child had died were not those of poisoning by arsenic, and there were no appearances of the action of this substance on the body, he came to the conclusion that its presence must have been owing to some extraneous cause. He examined the portion of the wall paper in which the stomach had been wrapped, and then found that part of it which was colored yellow was tinted with sulphide of arsenic or opiment. It was therefore evident, as opiment contained white arsenic, that the stomach and its contents had imbibed a portion of the poison during the night. This satisfactorily accounted for the presence of arsenic under circumstances which might have given rise to a false charge of murder. It further shows that an analysis of the stomach and contents cannot in every case be confidently relied on, and also the importance of keeping in mind that the presence of poison may sometimes be accidental and therefore not indicative of crime. Important murder cases are generally defended by able counsel who have had access to works written by the highest authorities of medico-legal questions. The medical witness may expect, therefore, to be subjected to a severe and critical cross-examination as to all extraneous facts and circumstances tending to show the possibility of the presence of the poisonous substance being accidental. For this reason, the witness should be prepared to give clear and satisfactory evidence on many points which to him may appear immaterial. I would suggest in this connection that should you have to do with such matters that it is wise to make at the time full notes of your observations and of all the facts and circumsances surrounding the case. The law writers in substance lay down the doctrine that: "In order to make notes and memoranda admissible it is indispensibly necessary that they should be taken on the spot, at the time the observations are made, or as soon afterwards as practicable, and, further, it must be remembered that a witness can only refer to them to refresh his memory. If from indistinctness of writing, or other causes, a copy of the notes has been subsequently made, a witness should not destroy the original notes, but have them ready for production." It will not do to trust to memory on matters which you are certain to be examined upon should you be called as a medical witness, as it is frequently the case that months elapse before you are called to testify. The observance of this simple but important precaution may save you much embarrassment and also greatly promote the ends of justice.

I would next invite your attention to another important duty which often devolves upon the medical witness. He is called on to testify as to the dying declarations of one who has been shot, or otherwise injured. It is always highly important, in the trial of homicide cases, that this character of evidence shall be preserved in such form and manner as will make it competent on the trial of the accused. It is well, therefore, to understand the essential elements which make such declarations competent as evidence. The general principles on which this species of evidence is admitted is stated by the law writers to be this: "That they are declarations made in extremity when the party is at the point of death, and when every hope of this world is gone; when every motive to falsehood is silent, and the mind is induced by the most powerful considerations to speak the truth. A situation so solemn and so awful is considered by the law as creating an obligation equal to that which is imposed by a positive oath in a court of justice. They are not competent in civil actions and are only admissible, as such, in cases of homicide where the death of the deceased is the subject of the charge, and the circumstances of the death are the subject of the dying declaration. There are some instances in which they are not admissible; as for illustration, where the party, if living, would not be permitted to testify, his dying declaration would not be admissible; or if by reason of his tender age, or imbecility of mind, he was incapable of realizing his accountability to his Maker, and the deep impression that he is soon to render to Him the final account. The declarations are alike inadmissible.

On the other hand, as the testimony of an accomplice is admissible against his fellow the dying declarations of a particeps criminis in an act which resulted in his own death are admissible against one indicted for the same murder. On principle therefore the dying declarations of the accomplice should, to justify a conviction, require the same corroboration that is necessary where he testifies as a living witness. It is essential to the admissibility, and is a preliminary fact, to be proven by the party, offering them in evidence, that they were made under a sense of impending death.

It is not essential, however, that the consciousness of impending death should be expressed by the dying man himself; it may be collected either from the circumstances of the case, as the nature of the wound and state of the body, or from expressions used by deceased. The length of time which lapses between the declaration is immaterial. They have been admitted in some instances where several days elapsed between the declarations and death. It is the impression of almost immediate dissolution and not the rapid succession of death in point of fact that renders the testimony admissible. The language of the law book writers and the decisions of the courts, generally, is that, "Where it appears that the declarant had any hope of recovery, however slight it may have been, and though death actually ensued shortly afterwards, the declarations are inadmissible. But it must be borne in mind that the word hope is used in two senses; first, as implying belief, expectation; and second, wish or desire. In the latter sense it must always exist in the normal mind. Where it is used as synonymous with belief or expectation its existence would render the declaration inadmissible: since hoping in that sense to recover, would be wholly inconsistent with the alleged belief that death was impending.

It is always best for the medical witness, when it is practicable to do so, to reduce the dying statements to writing and to have it signed by the injured party, but this formality is not indispensable, as the declaration may be proved orally. However, if they are reduced to writing and signed by the declarent, the paper must be produced as that is the best evidence. In your visits to the courts, you have frequently heard lawyers object to the form of a question because it was leading, or suggested to a witness the answer desired. This is correct and wholesome rule of evidence in eliciting the proof. But it is no objection to the admissibility of a dying declaration that it was elicited by leading questions, or by pressing and earnest urging. They are made in the absence of the accused, who has no chance to cross-examine the declarent, and for this reason the medical witness should be exceedingly careful to give the exact language, if possible, used by the declarent, as they are competent for the accused as well as against him. Only the facts should be stated, and the witness should avoid testifying as to his own impressions, or opinions, confining his testimony to a recital of the facts as detailed by the injured party. The jurors are disposed in some instances to give unusual weight to dying declarations, and therefore, the medical witness should be careful to retain in mind and fact detailed by the declarent which may be favorable to the defense. The innocence of the accused may sometimes depend on a correct and exact recital of all the facts and circumstances of this character of evidence.

In conclusion, allow me to suggest a few simple rules for the conduct of a medical witness when called to testify. In the first place he should inform himself fully on the matter in hand and especially in this requisite where he is called to testify as an expert. An expert is often required to give an opinion based on hypothetical questions propounded by counsel. And the well informed lawyer will often ask very perplexing questions, unless the medical witness is thoroughly posted on the subject of inquiry. As to the facts, you may be forced like any other witness to answer any question put to you, but as an expert you cannot be compelled to give an opinion on a subject upon which you are not informed. The safest plan is to decline an opinion at all unless you feel fully prepared. It is better to admit the want of sufficient knowledge than to attempt an opinion based on insufficient information. The medical witness should always deport himself with dignity, and should never become captious or irritable over what he considers foolish or unnecessary questions by counsel. His answers should be straightforward and clear, and should be couched in simple language that can be understood by the ordinary jury and court. It should never be stilted or highsounding. I heard of a witness who was introduced in a murder case, who, in answer to the question to tell what he saw of the difficulty made the following response: "I was standing at an angle of 45 1-2 degrees when the combatants approached with vengeance gleaming in their eyes. The clash of arms and the glitter of steel indicated but too plainly where the dire catastrophe was about to transpire. Victory seemed poised on wing uncertain upon which to alight. At this juncture the combatants disappeared from my view." This was graphic, but you will agree with me that the jury gleaned from it but an imperfect idea of how the difficulty occurred.

The replies of a medical witness should be free from technical language, and from any attempt to display learning by the use of words not understood by the common jury of the county. I will call your attention to the comments of an able writer on Medical Jurisprudence on this point. The writer says, "If medical men could be made aware of the ridicule which they thus bring on their evidence otherwise good, they would at once strive to dispense with such language. A medical witness is perhaps unconsciously led to speak as if he were addressing a medical assembly, instead of plain men like the members of a common jury, who are wholly ignorant of medical terms, and barristers who are but imperfectly acquainted with them. There are few trials which do not afford many illustrations of the injury done to scientific evidence and the clear understanding of the case, by the technical language in which it is given. A court may be told that "the integuments were reflected from the thorax, and the costal cartilages laid bare, when a wound was found which had penetrated through the anterior mediastinum," and had involved the arch of the aorta, etc. A simple cut in the skin is described as an "incision in the integuments." In a case of alleged child-murder, a medical witness being asked for plain opinions of the cause of death, said that it was owing "to atelectasis and a general engorgement of the pulmonary tissue." On a trial for an assault which took place (at the assizes) some years since, a surgeon in giving his evidence, informed the court that on examining the prosecutor he found him suffering from "a severe contusion of the integuments under the leftorbit, with great extravasation of blood and ecchymosis in the surrounding cellular tissue, which was in a tumefied state. There was also considerable abrasion of the cuticle." The following colloquy then took place:

Judge: You mean, I suppose, that the man had a bad black eye?

Witness: Yes.

Judge: Then why not say so at once?

It would be easy to multiply examples of this kind. This is not science, but pedantry, and if such language is employed by a witness with a view of impressing the court with some idea of his learning, it wholly fails of its effect. Lawyers and reporters put down their pens in despair, and the time of the court is wasted until the witness has condescended to translate his ideas into ordinary language.

SEPTIC INFECTIONS.*

By S. M. Hopkins, Gardnersville.

By septic infection we mean the morbid conditions brought about by the absorption into the system of the various micro-organisms. Hippocrates, Galen and other of the older writers described the disease; but it was left for Pasteur to discover and describe the cocci and bacilli that cause the various forms of septic infection. Lister took advantage of the discoveries of Pasteur and others and was the originator of anti-septic surgery. In 1875 Lister's first article on antiseptic surgery was published. Some surgeons were believers in the new doctrine, but most were skeptics. When a student in 1883 to 1885, we still had some surgeons who scoffed at the germ theory. One professor said if he could get enough germs together he thought they would make good poultices.

The following are the chief microorganisms concerned in production of septic infection, viz: Streptococcus pyogenus, staphylococcus aureus, albus and citreus, gonococcus, streptococcus erysipelatis, colon bacillus, typhoid bacillus, diphtheria bacillus, gas bacillus, tetanus bacillus, bacillus tuberculosis, and many others, unnamed and unclassified. In puerperal sepsis the streptococcus pyogenus is more common in the severe cases. The gonococcus is responsible for next largest number of cases, but does not furnish so severe a type. Next in frequency, as cause, is colon bacillus; but in a large percentage of cases of puerperal sepsis, as in other forms of sepsis, we find a mixed type of infection

Septic infection usually means wound infection. The size of the wound has little to do with severity of the infection; as a mere abrasion of skin, trimming of a corn or ingrowing nail furnish some of the fatal cases. In boils, carbuncles, etc., pyogenic bacteria enter the tissues by way of sebaceous or hair follicles. In another class of cases, as deep abscesses, acute osteo-myelitis, otitis, perecostitis, etc., we may find nearly the whole list of microorganisms mentioned above. In some way, it is supposed, that these get into the blood by way of the respiratory or digestive tract. When nutrition is perfect these germs in the blood fail to do harm, but should the vitality below, the normal resistance deficient, then these microorganisms "get busy."

Septic infection being caused by such a large number of different species of microorganisms, and is found under so many different conditions that it is impossible to give a set of symptoms that is applicable to all, although most wound infections have many symptoms in common. Usually the first symptom is a decided chill, or chilly sensations, followed by fever, headache, loss of appetite and in all external septic wounds we will notice redness and swelling. The patient nearly always complains of pain. In case of puerperal infection we have the foregoing symptoms with the pain referred to the lower abdomen usually. The lochia may or may not be found swelling. A very common complication of septic infection is a phlebitis. More or less lymphangitis is usually present. Pyaemia is an occasional sequelae of septic infection. Bacteria get into the blood vessels, thrombi form on vessel wall, which may be carried to different parts of the body and form abscesses.

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*Read before the Pendleton County Medical Society.

Diagnosis in septic infection is usually readily made, but not so easy in other cases. Continued fevers following confinement, abortions, operations and injuries should be regarded as of septic nature unless other cause can be proven. It is too often that we neglect proper antiseptic precaution, and try to cover up our sin by making diagnosis of malaria or typhoid in these cases. We should avail ourselves of all the aids which microscopy and bacteriology have given us.

Preventive medicine is receiving the attention to-day that it never has received. Antiseptic surgery or antiseptic treatment of wounds is the highest type of preventive medicine. The education of the public in the antiseptic treatment of wounds is one of the duties of the physician. Every household should keep on hand some good antiseptic to use in first dressing of a wound, provided a physician is not convenient. In a punctured wound, as a nail thrust in the sole of the foot, the foot should be immersed in 1-1000 bichloride solution for at least fifteen minutes. The wound should be enlarged if necessary and irrigated with the antiseptic solution. The irrigation should be continued for some days. Use cold applications for relief of pain in inflammatory swellings. Use the knife freely on first suspicion of pus.

In puerperal infection with putrid endometritis, clean out uterus with finger or curette, then use saline irrigations. For high fever use cold bathing. As general tonic measures give strychnine and alcohol, some use unguentum crede. As the next paper today is upon serum therapy, we will say little about the specific treatment. The subject will be ably presented and discussed. In cases like tetanus and erysipelas use the specific serum at once. In cases where the bacteriology is unknown, use the mixed serum, bacterins or glycogen while waiting for bacteriologist's report.

CAUSES AND TREATMENT OF SUMMER DIARRHEA.*

B. C. C. Turner, Lucas.

The term "summer diarrhea," while probably not exactly scientific yet it conveys to our minds a group of diseases which are among the most common as well as the most fatal of diseases with which we have to contend. By "summer diarrhoea" we mean those diarrheas which occur most commonly in the summer time, between July first and October first. They are characterized by frequent, large, offensive stools of varying colors but containing more or less mucus mixed with fecal matter and often remnants of undigested food."

Statistics are very variable along this line but it is generally accepted that 15 per cent. of all children born die before they are one year old, and that one third of these deaths are due to diarrheal diseases. The mortality in Kentucky of breast-fed infants is about 7 per cent, those fed on mixed diet, that is partially on the breast and partially artificially fed is 10 per cent; those fed artificially alone is 20 per cent. Therefore it is plainly evident that artificial feeding is an important element in the production of these diseases. There are many others. Summer heat has long been considered one of the chief factors, but the question just how it produces these diseases is still in dispute. Some claiming its chief and only effect is the contamination and deterioration of the milk and other diet of the child, while Holt and others point to the high infant mortality of New York, where the milk is exceptionally pure as compared with London, Berlin and other English cities where the milk is not superior, if as pure, but the summer heat is not so high. They therefore conclude that the direct effect of the summer heat has more to do with it than does bacterial infection. Whatever it's effect it is plain to all who have ever given this subject any thought that there are a great many more cases of diarrhea in the extremely hot summers than in the comparative cooler ones.

A great deal is being written and said of late years about intestinal flora, a fermentation of the food produced by the growth and development of the bacteria, this is believed by some to be the most important element in the production of these diseases. It is to be hoped that as we increase in knowledge of bacteriology, that some one will discover the specific microorganism which produces these diseases then manufacture a serum to combat same.

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*Read before the Barren County Medical Society.

TREATMENT.

The treatment is, of course, mainly prophylactic. The old saying that "an ounce of prevention is worth a pound of cure" is doubly true and important in the case of infant diarrhea. This prophylaxis should begin prior to the birth of the child. It is too often the case that the husband engages the physician to attend his wife who is to be confined in a month or two; the doctor asks a few causual questions as to her general health and thinks no more of the case until he is called to find her in labor. This is probably all he feels he can afford to do for the small fee charged in those cases in Barren county and the town of Glasgow, but this is not the full amount of attention that the prospective mother should receive. From the time his services are secured until the birth of the child she should have the physician's vigilant and careful attention, and all possible means should be used to prepare her for this important duty. A proper amount of rest before as well as after delivery should be insisted upon. And not only frequent analysis of the urine should be made but she should be taught the best methods in hygiene—the importance of fresh air and sunshine, the proper amount of exercise, the regulation of her bowels, frequent bathing, etc. Sometime before delivery the breasts and nipples should receive the proper attention so that she may be in the best possible condition and her child better enabled to ward off these diseases. For we shall find, if we take the time and trouble to investigate the statistics along this line, that the weak and debilitated baby is much more prone to suffer from these diseases than are the strong and robust.

After the baby is born he should see to it that it is breathing full and free, that it is properly dressed and carefully tucked away in a well-ventilated room, protected from the light before he leaves.

In giving instructions to the mother and nurse as to the care of the new born baby he should not fail to instruct them to give it nothing save the mother's breast and this to be given at regular, say two hour intervals. It is a very common impression among the laity in the community where I practice that the baby must be given some artificial food-catnip tea, a slug of fat meat or a sugar teat or some such stuff. In order to sustain it till the mother's milk arrives. And when the child becomes a little older they take it to the table and give it a little of everything that the adults of the family eat in addition to the candies and cakes that grandmother sends it. No wonder the little fellow has "hives." No wonder it has diarrhea and colic. The only wonder is that it ever survives such treatment at all. Therefore I always ask that it be given nothing save the mother's breast and distilled water till it is at least six months of age. I am sure that there are many intelligent people who do not realize that a baby needs water until it is old enough to ask for it. Hedger says that many children are given food and food only when they are crying because of thirst. Another common erroneous impression among the people is that night air is poisonous. They may give the children a little of the benefits of the pure air in the day time but of night air, never. What is there in the night air that is not in the day air? Don't shut the helpless children up in an unventilated room to breathe over and over again the same air. But cover them properly then pull down the windows. And in the day time in hot weather let the baby have its crib out under the shade of the trees. For if pure air is so important in pulmonary and diarrheal diseases why should not it be considered equally important in health? And since summer heat has been found to be such an important factor in producing diarrhea, every effort should be made to combat this high temperature. This can be helped by allowing a draft of air to pass over a block of ice. If this is not practicable then hang cloths wrung out of cold water about the room. Give the baby a bath once or twice a day and in the extremely hot weather sponge it several times a day.

If these few simple instructions were carried out I am sure that the present very high infant mortality would be greatly reduced. But there are instances where for various reasons the mother cannot nurse her baby. Her milk is deficient either in quantity or quality. she is pale, losing flesh and exhausted and the baby is not gaining steadily in weight. Or she is suffering from tuberculosis or other constitutional disease. Under these conditions it is necessary to resort to artificial feeding. If possible a wet nurse should be procured whose baby is about the same age as the one in question but this is seldom practicable. It is generally agreed among all scientists that properly modified cow's milk is the best substitute for mother's milk. Instructions for modifying cow's milk can be found in any of the late books on diseases of children.

The first formula, or feeding, is, of course, mainly experimental., but should be slightly weaker than mother's milk, and its effect upon the baby should be carefully noted. After a suitable formula has been worked out and the little patient left in charge of the mother, she should be taught the importance of cleanliness. Cleanliness of her own hands and dress, cleanliness of the nipple and bottle, the necessity of giving the baby frequent baths, of cleansing its mouth, etc. In short cleanliness of everything that has to do with the baby. Milk is so easily contaminated and is such a magnificent germ media; they don't want a better place in which to grow and multiply. Therefore the importance of the cleanliness of the milk. This has long been taught and is of such paramount importance that it should be kept constantly before our minds. Formerly we were taught to boil the milk, but this was found objectionable because it alters the taste making it less palatable and good food for children. Next came pasteurization, that is raising it to about 140 F. such a temperature inhibiting the growth and multiplication of bacteria. But Winters claims that even this temperature brings about a disassociation of the mineral and protein constituents making it less suitable for children, furthermore such a temperature does not, nor cannot, destroy the spores and toxins which have already liberated in the milk. In the country and smaller towns where almost every family owns a cow or is conveniently situated to a dairy the milk can be had twice a day fresh from the cow, this of course is not such a question as it is in the larger cities but even here all care should be taken to insure a pure milk supply. Cleanliness of the cow and her stable, cleanliness of the milkman's clothes and hands, cleanliness of the buckets from dirt and flies, should be insisted upon. And immediately after the milk is obtained from the cow it should be reduced to a temperature of about 40 or 50 degrees F. and allowed to remain that way until used. Just enough should be prepared each time for one feeding and the rest thrown away and the bottle and nipple sterilized and protected from the flies until the next feeding.

But however careful and painstaking we may be, however much we should like to see these diseases stamped out, still we have them among our children and we must combat them as best we can. It would be a long and thankless task to enter into a discussion of all the drugs which may or have been recommended in the treatment of these diseases, for as in many other diseases for which there is no specific, one can find authority for using most anything he likes or for using no drugs at all.

Therefore little space will be given to this topic here, leaving that to be brought out more fully in the discussion. There are a few important points to which I will refer, however, and there are: Stop all food for at least twenty-four hours and all milk for several days. Cleanse the alimentary canal from stern to stem—the nearer it approached surgical cleanliness the better. There is some difference of opinion as to the best purgative in these cases but it is generally accepted that castor oil is the best on account of its after constipating effect.

If there is so much nausea and vomiting that a purgative can not be retained, the stomach and lower bowel should be washed out by lavage and irrigation. Keep the little patient in the fresh air and bathe him frequently to keep him cool. All carrying, rocking and coddling should be prohibited. Let him be as still as possible. Most authorities recommend some astringent, perhaps some form of bismuth is best. It is recommended in large doses. Salol is also recommended where the stools are offensive. It is claimed that bismuth does but little good if it does not color the stools, that is, if it is not converted into the sulphide in the intestines, but in these cases the necessary sulphur can be supplied by adding precipitated sulphur to each dose, making the following prescription: Bismuth, gr. 10 to 15; phenylis salicylates gr. 1-2 and precipitated sulphur gr. 1; this to be given every two or three hours, the salol should not be continued long on account of its effect on the kidneys.

If, after the intestinal canal has been thoroughly cleaned out, the frequent loose stools continue, it will generally be found that small doses of opium will prove useful. Barbour and others to the contrary notwithstanding. Probably the best preparation for children is the tincture of deodorized opium given in doses of one half to 1 drop, depending on the age of the patient.

If the heart becomes weak a little whiskey or brandy may be given every two or three hours.

Artificial Production of Pneumothorax in Phthisis.—The cases which Chitty considers as specially suitable for this treatment are: 1. Those in whom the disease is advanced on one side, while the opposite lung is unaffected, slightly affected, or quiescent. 2. Those in whom the temperature remains high in spite of the usual methods of treatment, and who show signs of auto-inoculation whenever they take any exercise. 3. Cases which are going downhill in spite of the usual methods of treatment. 4. Early unilateral cases for whom sanatorium treatment is not available. Especially does this apply to the bread-winner of the family. 5. Cases of severe recurrent hemoptysis. One is often in doubt as to which side is giving rise to the bleeding, but in these cases it would be quite justifiable to compress the worse lung, and, if this had no effect, then to aspirate the gas and repeat the operation on the other side.

THE COUNTY MEDICAL SOCIETY.*

By U. L. Taylor, Columbia.

When Dr. Blair and I first talked of this meeting, he told me that he wanted every doctor who attended, to come with a paper to read. Dr. Blair never could be contented while our society was alive and running, if the members came up unprepared. I have never known him to fail to be ready. When his name was called by the secretary, he would always rise paper in hand, ready to read. We have no means of knowing when county medical societies had their origin. When physicians became common in the country, and began mingling with each other in every day life and at the bedside of their patients and talking with one another about the different kinds of medicine, they soon saw the necessity of an interchange of views from one to another. And then they soon saw the importance of having their talks in a more permanent form, and in a way that all the physisians in a whole community could have the benefit of what they all knew. In this way the opinions of one could be given to all. And the opinions of all could be given to that one, and thus was formed the first county medical society. The state society is formed by the county medical society, and the National Medical Association is made up of the associations of the different states. In my short life of only 80 years, I have belonged to every medical society that ever existed in Adair county. When we have a medical society that is worth while, when all the members have some life about them, and when each member comes to the meeting prepared to do his part, it is the most enjoyable place that I can ever be permitted to attend. Nothing gives me greater pleasure than to see on the meeting days a full attendance, each member filled with enthusiasm for the work, and each anxious for the hour of meeting to come. At a regularly organized society every member is expected to do something. To read a paper, to report a case, and every one be ready to take a part in the discussion of every subject. And every member is not expected to agree to everything that is said or to every theory that may be advanced. If everything were agreed to by every member, the meeting would soon grow monotonous, and the members would soon feel tired, and would want the hour of adjournment to speedily come. But when every one has something to say, every one an opinion of his own, every one can learn something. I have never seen a doctor so ignorant that he could not teach me something, and I have never seen one so smart that I could not teach him something.

Every doctor, therefore, who is willing and anxious to learn, and every one who is willing to impart his knowledge to others will make an acceptable member of a medical society. These are the kind of doctors of which good medical societies are made.

And then again, every member of a medical society ought to be willing and anxious to be placed upon the program, and if the program is occasionally too full, the overflow will make a mighty good nest egg for the next meeting. As to medical societies interfering with a doctor's regular practice, that point is not generally well taken. A doctor who is always anxious to attend, can always find a way to do so, without his patients suffering. He can begin two or three days before to make his arrangements to attend the medical society. He can call on his bad cases if he has any before the time, and leave a double portion of medicine, and if he has to defer his visits for another day, the patients who are generally reasonable, will not complain. And if, perhaps, he goes to the meeting and leaves his patients uncared for they will generally do just as well.

Every doctor in regular practice, ought to have a case to report to his society, to give information to all the other members, or perhaps he needs some council from all the other members. In either case it pays him, and it pays all the other members as well. A doctor never loses anything by attending his medical society, even if he loses a whole day from his practice in order to attend. There are some things that a medical society ought to do, and then there are some things that a medical society ought not, in my opinion, to do. Among the first is the teaching of medical ethics to all the members. There is nothing that makes a medical society shine brighter than to see all the members of a medical society in their intercourse with one another treat each other in an ethical manner. And in treating each other in an ethical manner, is simply treating each other as gentlemen. And one thing that the medical societies ought not to do, is adopting a schedule of prices. I know that in this I am treading on dangerous ground. Many of our members think we ought to have such a schedule, and ought to be like the laws of the Medes and Persians, unalterable. When the late lamented Dr. Wesley of Middleburg, came to Columbia, and reorganized our county society, he advised us against a course of this kind. He had seen its workings, and knew the danger of it, to a society. It would be well enough, if all the doctors in the county would join the society, and would all agree to be bound by it. But this all wilt not do.

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*Read before the Adair County Medical Society.

We have had some doctors in the county who never would join the society, because some others had not done so. They feared to go into it because the other fellows might try to damage the ones who were in. The doctors who were in our last society while it was running, quit it, several of them because they heard that some of the others were cutting under in prices. I could afford to hear these things, for they did not apply to me. I was not practicing, and had no occasion to undercut. The reason I have for opposing a schedule of prices is, every doctor knows his worth better than anybody else. An undersized doctor will generally charge an undersized price. And then there are very few doctors, even of the very best, who will not, under certain conditions, cut under the schedule price, and charge it to charity. And if I were to-day like the Savior when he was on the earth, and a woman was brought to Him to pass sentence on, He said, "Let him that is without fault cast the first stone." If I were to make that test here to-day, I would not fear to be struck. But in every county there are one or more doctors who will stay out of the county society simply to take advantage of a thing like this and under cut the doctors that are in. And in the other learned professions they do not do this way. A big preacher will command a big price, and a big lawyer will command a big fee. And there are no schedule of prices that can command and control these two professions in their prices. The farmer sells his produce for the best prices that he can get, regardless of his neighbor's price. All these things are regulated by supply and demand. And now in conclusion let me say. that while these are my views, I will join any county society that the doctors here may elect to have, for you cannot keep me out in the cold.

TUBERCULOSIS: THE QUESTION OF THE HOUR.*

By F. Silsby Tripp, Harrodsburg.

The evolution of the tuberculosis question deserves first a culling of the data and therapeutic facts, before treating the subject classified under the titles of hygienic, climatic, dietetic, and the modern conception of segregation.

The advanced biologic details of chemistry and laboratory methods pertaining to the infection of the human subject, demands physiologic perfection not attained in our early studies. Pathogenic bacterial life has become a special science; these physiological and pathological facts established may have been hypothetical at first. But conjecture, or something assumed, upon clinical experiment became facts, methods of reasoning and endeavor that gave to us the laws of life as they pertain to the microscopic florae.

In the soluble blood plasma and cells, bacteriolysins and hemolysins were developed with the comprehension of bacteriology; the injection of antigens in the blood elaborated antibodies in the blood serum; agglutinins and precipitins known to us in our studies in blood physiology, were applied in pathology in differentiating specific infections; we found that sensitized blood produces amboceptor and complement, etc.

"We refer to biological and experimental tests to prove the presence of immunity against bacterial infection, and quantitative estimates showing whether the protective substances are ample in amount to protect against the same."

It is absolutely necessary that the blood be alkaline; this is insured by the presence of sodium carbonate, and in the case of acid poisoning, by the splitting up of ammonia from the proteid molecules. An acid reaction rapidly destroys the irritability of bioplasm.

"The statistics of successfully treated cases of tuberculosis show a general increase in blood alkalinity. There appears to be no material difference in the opinion that in infections which follow an unfavorable course, the blood alkalinity falls steadily until death; while if the infection is overcome, the blood alkalinity takes an upward tendency, and reaches frequently a higher degree than before infection."

"Many cases of tuberculosis recover spontaneously through the necessary reaction to the bacillary substances by reason of increased sensitiveness on the part of the tissue cells; or through the early liberation and absorption in ample quantities early in the disease. The necessity and advantage of specific medication, with the object of immunizing the patient against the pathogenic specific bacillus, is applied most successfully when the cells and nutrition are not seriously impaired."

"Tuberculosis is not one of the toxin-diseases; the tubercle bacillus does not secrete a true toxin that is dangerous to life, but itself becomes dangerous by its own products of disintegration and by the tissue alterations and destructions where it grows, multiplies, degenerates and dies."

"In this disease the immunity desired is of the antibacterial kind, and the protective substances must be those that are capable of destroying the bacillus itself. Their presence must, moreover, be enduring in order to prevent a subsequent infection and to aid in curing the disease. Hence we immunize the subject that is to be protected and the patient who is to be cured, directly, and the organism itself produces the antibacterial substances, and continues them for long periods of time without any effort on our part.''

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*Read before the Mercer County Medical Society.

Bacterins, or bacterial vaccines, consist of suspensions of killed pathogenic bacteria in normal saline solution, standardized by determining the number of bacteria per c.c. of suspension. By the use of bacterines, or bacterial vaccines the opsonins and other antibodies in the blood may be increased, and this increase is characterized clinically by the patient's improvement.

Bacterial therapy is dependent upon the injection of an appropriate bacterin and the flushing of the focus of invasion by the enriched blood and lymph. The latter is favored by the local application of hot salt solution, rubefacients, the use of the Bier hyperaemic method, surgical incision, massage, and the internal use of drugs, such as citric acid, sodium citrate, etc., which decrease the coagulability of the blood.

''Koch announced in 1890 the discovery of a substance in cultures of tubercle bacillus which caused a specific reaction in persons suffering from tuberculosis, and when administered long enough excited a curative action upon the diseased process.'' Bujwid in 1891 gave the name tuberculin to this substance.

''The various tuberculins differ from bacterins chiefly in their method of preparation. During the past few years, during the investigation of the chemical constituents of the tubercle bacillus, von Ruck has isolated a mucoprotein in pure form, upon which the action of tuberculin depends.''

''The watery extract of tubercle bacilli is frequently classed by writers with tuberculin, and the dangers and less favorable results from the latter are pointed out to its disadvantage. This is absolutely unjustifiable and shows plainly enough that such writers do not take into consideration that tuberculins, under whatever name they appear, are prepared from the fluid upon which the tubercle bacilli have grown, whereas the watery extract, as well as tubercle bacilli emulsions, represent the bacillary substance itself, which is required for the bacterial immunity.''

The treatment of Dr. Frederich Frans Friedman, of Berlin, consists in the injection of a solution prepared by the doctor himself, which he claims contains living nonvirulent bacilli taken from cold-blooded animals, in contradistinction to the virulent organisms contained in Koch's tuberculin and other tuberculosis remedies.

Dr. Friedman states in the course of his Berlin lecture: ''the basis of all researches in the domain of tuberculosis therapeutics has for a long time been a due recognition of the fact that the antigens are contained in the excitor itself. That in all hitherto used for the production of tuberculosis matter the basic material was the virulent and strongly toxic bacilli of human or bovine tuberculosis, which in spite of all efforts to remove their poison by special processes, naturally continued to be capable of injuring seriously, or at least endangering the organism.''

His agent would have to be an unvirulent, untoxical bacillus. Further, ''it was not permissible that the exceedingly delicate antigen should be in anywise affected by any measure taken. It was therefore necessary that the bacillus should be a living one, for any method of killing them, even though apparently the mildest, naturally impairs the finest molecular constitution of the organism. It must consist of genuine, living tuberculosis bacilli, naturally and absolutely unvirulent, and free from any additions or disturbances.''

He states: ''I have tested many and various unvirulent cultures for therapeutic purposes, including those derived from man, and rendered unvirulent by certain measures, but I entirely abandoned this plan for the reason that the therapeutic results were not very encouraging. This was all changed at once when I used for therapeutic purposes an unvirulent race of tubercles, which I discovered several years ago but whose effect I succeeded in completely changing only in recent times. Formerly this race was still unsuited for therapeutic use in man. Not until I succeeded in removing the last traces of virulence therefrom by suitable interbreeding and passages did I use the preparation on man. I repeatedly injected it into myself, then into adult tuberculosis patients, then into consumptive children, and generally, when the successful therapeutic results continued to be confirmed (which was a long time afterwards), into children by way of prophylactic inoculation.''

''The preparation proved absolutely harmless, even in large doses and however applied, whether subcutaneously, intramuscularly, intravenously *per os*, conjunctively or locally upon an open tuberculous nidus. The treatment consists in intramuscular incorporation occurring once, twice, or three times, seldom oftener, and repeated at long intervals.''

''An infiltrate must form at the place of injection; this infiltrate should be from the size of a small walnut to that of a small apple, and will gradually disappear in the course of the next few weeks or months. As long as this tissue exists, and during its gradual resorption, the healing will go on.''

''However, if the resorption of the substance is incomplete, and if, after several weeks or sometimes even months, and for reasons difficult to ascertain, the deposit at the place of injection "melts away" or begins to secrete, or if the body rids itself thereof in the form of an abscess, the healing often, if not always, ceases, and nothing would be accomplished in such cases even by a renewed injection; on the contrary, the patient would simply be given a new infiltrate and a new abscess without being benefited."

Dr. Friedman finds: "In cases in which the Pirquet tuberculin reaction usually has a negative, or almost negative, result—that is in cases of phthsis of a progressive character, severe or manifold bone tuberculosis, and, generally speaking, progressive tuberculosis already propagated through the blood, there is, without exception, a rapid and complete resorption at the first injection, with only a slight and transient infiltrate formation. Not until the second injection, or subsequent ones does specific hypersensitiveness occur in such cases in the form of considerable infiltrates."

"Further, after the substance has been incorporated intravenously (in which case it is borne without difficulty even in large doses, except that there is a transient fever and feeling of fatigue), there is to be sure, a temporary success, accompanied by a rapid healing. For instance, lupus centers which have existed for decades diminished in size and intensity after a few days. Then, however, the healing process comes to an absolute standstill as if cut off. But still another considerable difficulty arose in the subsequent treatment of these cases which had been treated preliminarily intravenously with a comparative large dose. As a matter of fact, they had acquired so complete a dissolving power with respect to the substance itself through this intravenous treatment that large doses administred subcutaneously or intramuscularly, were immediately dissolved without any appreciable infiltrates and therefore any considerable therapeutic effects resulting."

This hypersensitiveness, devoid of reaction or infiltrates I take to be a condition of anaphylaxis.

Dr. Friedman then states: "I now thought of uniting the advantages afforded by each individual mode of incorporation by combining these modes. Indeed the results with this simultaneous method (the combined intramuscular and intravenous injections), were that the abscesses were entirely avoided here, that beautiful and gradually well resorbed infiltrates are formed, and that accordingly the therapeutic results may be characterized as very favorable."

As the report of the Committee of Medical Experts appointed by the U. S. Government to investigate the work of Dr. Friedman in our country has not been officially made, I will continue my excerpts from the reports of von Ruck, in his critical review of Dr. Friedman's claims to the discovery of a cure for tuberculosis.

"He treats this malady with a preparation of living tubercle bacilli." "The first communication of Friedman on the subject of turtle tuberculosis and turtle tubercle bacilli appeared about 1903. He reported what he claimed to be a case of spontaneous pulmonary tuberculosis in a turtle, probably the first case on record, which showed typical ulcerative processes and cavity formation. Tubercle bacilli were present in great numbers, and could not be distinguished from mammalian tubercle bacilli."

"The cultures grown from the bacilli so obtained were very similar to human tubercle bacilli and could, in fact, not be distinguished from these after a few weeks growth, differing thus from all tubercle bacilli cultured from cold blooded animals.

If my memory serves me correctly, Friedman does admit the first cultures may have been derived from the turtle which was infected from bacilli of human origin, but claims subsequently to have isolated tubercle bacilli that were peculiar to the turtle.

"Such an ideal living vaccine is represented by his turtle bacillus biologically and morphologically; in fact he says it is a true tubercle bacillus, 'only marvelously mitigated.' "

Friedman's attempts to immunize the lower animals with his preparation have not, it seems, been successful when put to the tests of other observers. The vital points at issue at the present seem to be the results of treatment of cases of human tuberculosis to date, and to what extent the immunizing treatment administered to infants and children are successful. Will the unvirulent turtle bacilli injected for curative or prophylactic treatment be found effective, or will the bacilli later become virulent, and diffuse acute miliary tuberculosis?

"We know that tubercle bacilli can continue in a living state, in the tissues of animals without apparent pathogenic powers for years, and we have ample evidence that this can likewise be the case in the human subject as shown by the so-called latent infections, which after many years become active and progressive. We must, in the light of such observations, conclude that though a virulent for long periods of time, the bacilli gradually adapt themselves to their host and acquire pathogenic power."

"It may, however, be presumed that Dr. Friedman was in possession of ample and conclusive evidence to contradict at least most of the objections stated and others which might be suggested, before he inoculated several hundred infants and young children with his living bacilli. Valid evidence is the more necessary because none of the animals which he sought to protect with his living bacilli, resisted an infection with but a slightly virulent culture of tubercle bacilli, judging the degree of virulence by the length of time necessary to cause the death of his animals.''

It has been my good fortune to receive the Reports of the Winyah Sanatorium, located at Asheville, N. C. The review of the cases treated at that institution, the original work done there in perfecting the watery extract of tubercle bacilli for the treatment of cases and the immunization of children, open to our undertsanding a new chapter devoted to tuberculosis, based on scientific research along the line of evolution of the subject. This development being accomplished free from the danger of the untried i.e. the control of a dread infection through the injection of specific living bacteria (unvirulent though they be).

The Reports of the Winyah Sanatorium are replete with information; statistically the arrangement corresponds to the methods of compiling the records of tuberculosis the world over, a matter of importance if they are to be of comparative worth. The physical examinations, bacteriological tests, the laboratory *minutiae* that pertain to the blood alkalinity, agglutins and opsonins, the animal experiments, all are so made that the deductions and comparative value result in a positive therapy, and evidence the solution of the white plague question.

It is my impression that this institution will furnish the physician at home with the watery extract of tubercle bacilli, to treat his patients along the line that would correspond with the clinical and laboratory methods of their physicians; this I surmise after perusing the tabulated reports of the doctors who have used their therapeutic preparation in different parts of our United States.

It was the lack of scientific definition and the evasion of his methods that led the profession to distrust the Friedman cure. Failing to immunize in his animal experiments, he certainly was to be questioned when he undertook to immunize children who were free, so far as could be discovered, from infection, save as heredity or environment predisposed to the same.

The possibility of these cases becoming virulent and making inception of a plague of general acute miliary tuberculosis would be fulfilling the destiny of bacillary infection in many instances.

The results of treatment with the watery extract of the bacillus of tuberculosis has seemed to be effective in immunizing and curative in a good per cent. of cases. It is free from the stigma of commercialism, and has developed in the direction that all bacteria and antitoxin therapy has done, and with the element of human safety about it that is demanded in any prophylactic or curative agency that affects the public health or mortality.

EXCERPTS.

Message from the President of the United States, transmitted in response to Senate Resolution of January 2, 1913, a memorandum of the Secretary of State, a Report by the Consul General, etc.

Reports of the Winyah Sanatorium; Karl von Ruck, M. D.

Biological Products; H. K. Mulford Co.

THE DOCTOR HIMSELF: SOME THINGS HE IS BLAMED FOR AND SOME THINGS HE DOES.*

By E. L. Gowdy, Campbellsville.

It is with a certain amount of trepidation that I come before the society with this paper, because in it you shall hear nothing that you do not already know; it will not even serve as a reminder, I am glad to say, to the members of this society. But lest you think me brazen to take up your time with a subject bearing the time-worn criticism and oft repeated advice this one does, I wish to say that the remarks are my idea of a part of the ethics and conduct it takes to become a successful and honorable practitioner of medicine and bear no other significance.

It has been a matter of interest to me to inquire, at times, of young practitioners just what reason prompted them to take up the study of medicine. The answers are, indeed, varied. A great number will say: ''Well, I said I was going to be a doctor ever since I was a little boy, I always loved medicine and things medical and when I became a man the idea never left me, so I entered the medical school.'' There is no question but that this youthful aspiration leads many men to the medical school; in later years they sadly learn the practice of medicine and the theory of practice of medicine are two entirely different things, and that is perhaps why many of this class of physicians become the poorest doctors.

Others will say they studied medicine because it is an honorable and dignified profession; the average doctor stands well in the community in which he resides and is usually accorded a great deal of respect by the citizenship of that community. Unfortunately, many of this class of doctors, after they begin the practice of medicine, depend upon the medical profession to hold them up rather than they hold up the medical profession. Still others will say: "Well, my father was a doctor, and my grandfather was a doctor, and I took up medicine as a matter of course." Strangely, many of these doctors' sons make the poorest medical students and become the best doctors.

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*Read before the Taylor County Medical Society.

A great many honest fellows, however, will say they took up the study of medicine because they believed they saw in it a way to make a living. This class often make disappointing doctors because they are ready to quit work when they should really begin; that is, the man who enters the profession from a monetary standpoint will usually make the most thorough earnest student, and when he leaves school he leaves medicine behind and takes up the diagnosis of disease and dispensing of pills as a business. This class may or may not be successful, but they are rarely in love with their profession.

In my opinion, the majority of young men take up the study of medicine purely and simply as an accident. These men either fall in love with their profession and go on to make useful doctors or else become miserable failures. They have no ideals to mislead them, they find out the doctor is not merely a servant but a slave, and, if they can adjust their temperament to conditions, all is well and good; if they cannot, they drop out. One of our professors used to say to us: "There is no such thing as a great genius; it is always a great worker." While nature may make the brains of some men a little quicker in making a diagnosis and some fingers a little more deft in handling a surgeon's needle, it is always the great worker who wins out in the end.

It is a fatal fallacy for a man to take up the practice of medicine solely as a means of making a livelihood. The man with the ability to collect $3,000 a year practicing medicine can almost be counted upon to make $3,000 in some other line of business.

The ambitious youth who enters the medical field for name and fame is more deeply doomed to disappointment than all the rest, for no other class of men does history honor less than doctors. Even among doctors themselves it is no special sign of ignorance or lack of study if the average general practitioner cannot tell you who invented and first used obstetrical forceps. How many well informed doctors know who is responsible for the use of chloroform as an anesthetic, or who first introduced the hypodermic syringe and fever thermometer? A year or two ago, when Lord Lister died, the cable dispatches to the daily papers contained a four or five line notice of his death. Yet, there was a man who saved twenty lives, maybe a hundred, where Napoleon caused the loss of one, and his name is hardly known outside the profession. How many laymen know the name of the man who made the building of the Panama Canal possible? The doctor ambitious to become widely known or does become widely known, usually turns to literature, politics, or some avocation other man medicine.

After the young student is fully launched in practice he will find that the relationship between medical man and layman is so close that there are many, many minor details he must guard against in order to make a successful beginning. The young physician is likely to make the fatal mistake of displaying his ignorance of the localisms he is bound to run across in the community in which he starts to practice. Of course, I am speaking of the average country community and of that class to which the beginner is usually called. The vulgar synonyms of the medical school bear an entirely different meaning when the worried young father of four or five children comes to him and says his wife hasn't seen anything for two months. Any intelligent young man will know the poor fellow's wife does not need an eye wash, but some of the things he is called upon to interpret are not so easy. Less than a week after I began practice, a black-skinned citizen of our city, out of the kindness of his heart and emptiness of his pocket, came to me and wanted some "sour powders." Feeling it would never do to display my ignorance of such an apparently usual commodity, while fumbling on my medicine shelf I asked him what he was going to use them for. He said he was going to use them for rheumatism, but volunteered the information that they were good for headache, neuralgia and all kind of pains. With some misgivings I divided some ten grain doses of salicylic acid. About a week later he came back: said the rheumatism was better but he still had it and wanted some more "sour powders." In the meantime my knowledge had increased; I wrote him a prescription for aspirin and sent him to the drug store.

A few months ago a man came into my office just after a shooting affair on the outskirts of town. He inquired after the wounded man, and when told I had not seen him, he said he heard he was shot in the "holler." It was some time before I realized the "holler" he referred to was part of the human anatomy and not the lay of the ground. But the inquirer who came in the afternoon was less ambiguous. He said Mr. Smith had been shot in the "swallow."

It is all right to tell the parent that the baby has seborrhea, or your patient that she has cholecystitis; they will probably ask you what you mean, but it will never do for you to let them know that you do not know what they are talking about. The woman who comes over to help his wife do the washing knows what he means and you are not expected to know less than she.

Another thing the doctor has to guard against is ridiculing home remedies and even patent medicines. Most home remedies and patent medicines, in themselves, are harmless, and the patient is very well satisfied and willing to change to your treatment if you tell him the medicine is probably all right, but you know nothing about it, and therefore, cannot recommend it. You must remember when they concoct or buy the medicine they usually have as much faith in it as they do in you when you are called, and to ridicule at this point would be an insult to their intelligence and belief. The old grandmother who made the mixture would still think she knows just as much about medicine as you and the purchasers of the patent medicine would attribute your ridicule to jealousy and selfishness and would think more than ever of their medicine.

Another thing that will bring criticism upon a doctor is to visit a patient and not leave sufficient medicine. It would never do for the country doctor to be a nihilist; he would quickly be without a practice. This is an age, however, when he often sees cases where drugs are not indicated. But if he doesn't want the family to call another doctor he must leave something—placebo green four times a day, or three or four c.c. pills to be taken before retiring, according to his sense of humor and the condition of the patient.

Another thing the patient may forgive, but never forget, is to be salivated. How often do we hear, "Dr. So-and-So salivated me twenty-five years ago." A few months ago the parents brought a sick baby to me. I prescribed 1-10 grain calomel tablets—one every half hour till ten were taken. I told them I wanted to give the child a dose of calomel, and be sure to give it according to directions. In two or three days another doctor was called. An intense stomatitis had developed and the doctor was told I had salivated the baby. They had given two of the one-tenth grain tablets, but fortunately the baby had vomited the second one. It was impossible to explain to those people that the so-called salivation was probably because the baby had *not* taken the calomel and not because it had. I have never done any work for that family since.

Another thing the doctor has to guard against is becoming too optimistic. I do not mean that he should always wear a long face in the sick room and every little malady should be explained to the patient's family as very severe, often fatal—and thereby make a bid for the credit of relieving. The average layman has more knowledge of the symptoms of disease than the doctor often gives him credit for, and in the majority of cases he has the doctor sized up pretty well. The old joke of the young doctor who drives madly out of town on a hurry call to an imaginary patient or who goes to church that he might be called away is now to be classed with the myths of Aesop and the Arabian Nights. While usually it is best to tell the patient the chances are all in his favor, the really optimistic doctor will consider the chances all against him. When the hopeless, often needy neurasthenic, comes to your office, or, more often, meets you at some neighbor's upon whom you are making a call, it is rarely good policy to say, as we would often like to say: "There is nothing the matter with you." She will never forgive you, and if your name is discussed among her neighbors and friends she will have cold, even dirty, water to throw on your ability and opinions.

There is no doctor who has not enemies—dozens of them—who at sometime think they have been wrongfully treated or neglected. In many instances these people with imaginary grievances are a sort of advertisement for him. Still it behooves the doctor to live peaceably with all men—and women and children. Even the dead-beat can be handled with a certain amount of tact that will make his invectives against you a little less vituperous when your name is brought up in his society.

On the other hand, there are a class of patients who think they do the doctor a great and lasting service when they call on him to see a sick member of their family, when the fact is the doctor does the patient a favor when he goes. It is true a doctor appreciates a call; for it is paying calls that makes it possible for him to practice medicine. No matter how much ability a man may possess or how well equipped he may be, he must have a demand for his services before it will be of any use to him. But he should look upon a call as an appreciation of his ability and not as a favor, for he does not expect to take something for nothing and when he pockets his fee he is under no obligations whatever other than friendly ones. The fellows who think they do us a great and lasting favor when they call us should be handled with care for they are easily made our most lasting and bitter enemies.

The jolly round-faced doctor, the doctor of the old school, is almost a thing of the past. The average patient prefers the doctor who tries to relieve him with the microscope and serious earnest thought rather than with extemporaneous mixtures and humor. A certain amount of good healthy humor is welcome in the sick room, but it is a short step between humor and levity, and even healthy humor may be carried too far. I know of an old lady who had been sick several weeks of cancer of the gall-bladder. Her doctor had been seeing her two or three times a week but had not told her the seriousness of her condition. Coming in one bright spring day, the doctor proceeded without a word to the kitchen, got a butcher knife and came back whetting it on the palm of his hand. Noticing the unusual maneuver, the old lady exclaimed: "Doctor, what are you going to do with that knife!" Looking at her with an expression that would have done credit to an angry Indian the doctor replied, "I am going to cut your liver out." It was the last time he saw the old lady.

In conclusion, one of the most important things a doctor should not do is to criticise a fellow-practitioner in the presence of a layman. Not only is it a fundamental principle of medical ethics that a doctor should speak, act and feel kindly toward his brother, but by observing this code he keeps a clean conscience and business asset that will last him as long as he practices medicine. We all know how it grates and jars upon us to hear a patient criticise another doctor in our presence —how much dignity then must our profession lose when they hear us condemning one another. No matter how much our personal dislike, no matter how worthy the recipient of our dislike, no matter how crude his diagnosis and treatment, a man is pulling against himself when he begins to find fault with his colleagues in practice. A member of this society once told me that when he visited a house and they began to talk ill of some other doctor, his heart began to drop: he knew his fee would not be forthcoming; his confidence in that family was gone. So it is with doctors: the real busy doctor should be too full of his work to worry his brain with petty dislikes and grievances over someone else.

Aside from the personal element in this matter, there is a duty we owe the profession as a whole to keep our disagreements to ourselves. Next to being called in by a fellow practitioner for personal aid for himself or family, there is no higher compliment a doctor should wish than to be called in consultation by a professional brother. If we are called in consultation and make known our differences of opinion to the layman what is he going to do? "When doctors disagree, who shall decide?" Either the patent medicine advertiser or some quack—maybe the shade of Charley White-moon, or even, in selected cases, our own Doctor Mitchell.

REPORT OF A CASE OF CEREBRO-SPINAL MENINGITIS.

By A. O. Taylor, Maysville.

Patient age 3 years, was taken sick Sunday night, January 19, chill, fever, vomiting, the next morning, Monday, at 10 a. m., pulse 130, respiration 60, temperature 102.2 F. Child had just fainted and was very weak, pale and sweating, gave 1-80 gr. stry. sulph. hypodermically, followed by calomel, 1 grain in tenths, gave high enema myself with good result from a loaded colon. Saw patient three times that day, he was stupid and slept all day. Became restless Monday night, the second night of sickness; rolling over bed, but was conscious, complained of no pain, drank water freely which he vomited as soon as taken; pulse 130, respiration 30 to 40, temperature was normal and remained so until death Wednesday night.

Tuesday morning when I saw the patient for the fourth time, I first noticed some retraction of head and positive Kernig's sign. Retraction increased, still conscious, Kernig's sign more marked, no convulsions, eruption or any deviation of eyes or pupils from normal at any time. Tuesday night I ordered Mulford's serum from Max Wocher Co., in Cincinnati, got it the next day at noon, administered it Wednesday night under light chloroform anaesthesia without the slightest difficulty, 15 c.c., after extracting probably 20 or 25 c.c. of cerebrospinal fluid; child seemed better from then, 6 p. m. until midnight, when he suddenly died without a struggle. This was a thin, poorly nourished child with a very large head whose father is a syphilitic; but the child showed no signs of hereditory lues.

I consider this a typical case of cerebrospinal meningitis and one that I had great hopes of curing with the serum. Dr. Hutchins, of Dover, remained with the child from the time the serum was administered until death, which came very unexpected to him as the restlessness and retraction of head were markedly improved after treatment. No cases of cerebro-spinal meningitis have been reported in this locality for years.

An examination of the spinal fluid was made by the State Bacteriologist with the report of the meningococci being found.

THE MENOPAUSE.*

By T. L. Lamkin, Bardwell.

The menopause is a death or end of the menstrual life. Within itself it is not a disease, but a condition; known as the change of life. The change of life is a state of cessation of the menstrual period; a period in which a woman is the most fitting to bring children into this world to populate our globe with the best and healthiest subjects to bless the human race. In a sense, it is not a disease, but a way by which all our women have to travel, however dark and dreary it may seem. God has so declared, and nature has so prepared.

The onset of menstruation is influenced by race, climate, mode of life, heredity, and genital sense. Climate does influence the onset of menstruation. The social conditions of a girl determine, to a certain extent, the age at which menstruation begins. If she lives in a city, subjected to indiscriminate association with the other sex and to sexual temptations, the function appears earlier than it does in the country, or in a girl carefully brought up in comparative seclusion. The same rule applies to lower animals. If a bull is admitted to the pasture of a herd of heifers, heat appears earlier in the latter than it would if they were segregated.

It is a matter of common observation that peculiarities of menstruation run in certain families. Thus, through several generations of females, menstruation appears late and ends early, or vice versa. By genital sense is meant the strength of sexual feeling.

In women of strong sexual passion the function of menstruation is commonly instituted earlier and lasts to a greater age than common. Menstrual molimina, is a term by which is meant, the local and reflex subjective symptoms of menstruation: viz: the character of the flow, the duration of the flow, the quantity of the flow, and the cessation of the flow. The menstrual flow ceases usually in the forty fifth year, becoming infrequent and more scanty over a period of six to twelve months, until it stops altogether. There are many exceptions, however, to this rule. A woman who begins to menstruate much later that the fifteenth year will often have the menopause before forty. Or, if she begins to menstruate early, she will often continue beyond the forty-fifth year. As a rule, therefore, it may be stated that a woman menstruates from about the fourteenth to the forty-fifth year of her age. Precocious menstruation, however, has been recorded in the infant of one or two years old, and the discharge has continued to the sixty-fifth and even to the eightieth year.

Menstruation, then, is the state in which child bearing takes place, and after this period, is known the change of life or menopause. The woman who is suffering from the menopause, is an object of pity which we simply ignore in silence, leaving her to fight her battle alone, often to commit suicide, often to become insane, and often, if God loves her, to die and be done with it.

The unholy quarrel that exists in most homes between man and wife over the danger of "getting caught" is over when the menopause has arrived. Things do not sink in upon the young as they do in old age, the childbirth pains are soon forgotten, the quarrels heal with kisses, and life holds out to all who are young the same old glittering, lying promise of something, that makes it the more fascinating.

It is on behalf of the woman in her fiftieth year that I am impelled to make some sort of plea, that she be aided in a martrydom that far exceeds her childbirth pains, her worries over childrens cares, her sufferings over love and its unlikeness to what she thought it was. We are living in an age of demonstration. People are asked to deliver the goods, and they are delivering them, and will continue to do so, until our education and social customs are radically changed. The central figure in this melee of change is "woman." It is her day, and she will be reckoned with before any sense of repose comes upon our unsettled conditions. She is a creature dissatisfied with her natural state, and, when you come to think of it, she has some very valid reasons for being so. Women are the martrys of the world, and if they cease to suffer a willing martrydom, population will cease.

It is now that her husband is likely to prove untrue to her, and the tragedy of this is due to the great underlying evil of our social structure. Many a woman of fifty suffers a martrydom equal to the crucifixion trying to keep her husband's "love" despite her gray hairs and her shriveled face. No wonder her hair turns gray and her face shrivels, for she must bear it all in silence. At most, her friends only joke her about it; at best, her doctor will tell her to rest and keep quiet. When she passes through this dreadful ordeal she is old, and the renunciation of all her youthful joys are accomplished, and she has started upon the end of the journey.

Testimony regarding this period of life varies. Many women will declare that they are happier, stronger, more in tune with life than ever before; but many others fall by the wayside, remain a few years in invalidism and die in the early sixties.

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*Read before the Carlisle County Medical Society.

The medical profession has been busy with ways and means to mitigate woman's sufferings at childbirth. Whether or not this is for woman's good, I cannot say. Be that as it may, though many terrible abuses exist in the married state, and the birth of children from unwilling mothers is a thing that cries to heaven, but it is likely that there will always be enough of youthful passion to populate the world in spite of all we may say regarding the prostitution of the sex function in the guise of love.

It is an idea of mine, that it is the woman who has been fully sexed who suffers most at the menopause. To her this period is like the "loss of manhood" that brings with it such hideous melancholia. Everything in life and nature seems to her flat, stale and unprofitable She tires of housekeeping, tires of flowers, tires of joys, and everything and everybody pall upon her; she is miserable beyond all description. She suffers from "hot flashes," and her friends titter when they see her fanning herself while the blood rushes to her head, dyeing her face and neck crimson; and worst of all, she finds herself obliged to do more hard work and suffer more worry than ever before in her life, and the thousands of things to worry her heart and brain all these sufferings she must undergo in silence.

There are many other things and phases of this "change of life" that remain in the secret chambers of the knowledge of those who have passed through them, and that lie in wait for those who are coming to experience them. "The dangerous age" is something the average woman knows nothing about. She has little warnings. Somebody has smuttily told her she is "likely to get caught" when the change comes, but nobody has told her that a sex-madness may seize her or suggested that it is curable, that she may be relieved.

It is true that the science of medicine is a little more hopeless at this period of woman's life than in the face of almost any other human ailment. That old time prescription, "keep good natured and patient till it is over" is a good one, and yet, it seems to me that with all the education and enlightenment of the times, some genius might hit upon a remedy or a precaution for this intense form of human suffering. Why should it last for years? Why should it form so inconspicuous a part of medical attention and discussion? This is a social rather than a medical case. Some think that the suffering during the change of life as well as at childbirth must be caused by wrong living. The woman must have done some terrible wrong to her body that she should suffer these years of humiliation and pain. But let me ask, "can her physician tell her what it is, and tell before, not after it is over?"

In the coming years the physician must do more by way of precaution and less by way of cure. Instead of coming into the family to remedy what has happened through ignorance and carelessness, he must come to inspect and prevent sickness. The Japanese custom of paying the physician by the year to keep his family well is much wiser than calling him at all hours whether he is needed or not.

This gives me hope that our private affairs may some day cease to kill us by inches, and that we shall see the time when "love of health" is not to be kept at the expense of putting any woman upon the rack of human torture.

We, as physicians, have gone over the whole category of remedies, and, in the end at least, most all of them fall short of what we most desire. The hot flashes and nervousness, we are all quick to recommend nerve sedation, such as bromides, valerians, hyoscyamus and camphor. Pardon me, but my experience tells me that all sedatives are largely make-shifts, and that the tendency is to demand increased dosage, and it frequently leads to the use of "dope." Many of these patients become confirmed chronics and eventually "dope fiends". I have depended on the homeopaths for two of my remedies for that many diseases, viz: sepia for leucorrhea, and lachesis for hot flashes. This remedy controls the hot flashes and nervousness and melancholia better than anything that has come into my hands. If possible we have to find the underlying cause if possible, and then treat the conditions as they arise.

In the future we have a great field to study in, and see what the medical profession can do for the woman of fifty who would like to continue a useful member of society, that she may keep her husband's love, and still not be the victim of social customs and religious ideas, the private workings of which are as barbarous as the Spanish inquisition.

Pyrexia.—Solly reports cases illustrating many different conditions causing pyrexia. Pyrexia due to entire enteric and paratyphoid fever, to the pneumococcus and to syphilis; pyemic and septicemic cases, including malignant endocarditis; pyrexia due to subdiaphragmatic abscess, portal pyemia and to nematoid worms; urinary cases and rat-bite fever.—Lancet.

Infection of Guinea-Pigs, Monkeys and Rats with Plague.—In summary, Barber's results show conclusively that the smallest possible dose of virulent plague bacilli may infect fatally the more susceptible guinea-pigs, monkeys or rats,

EXOPHTHALMIC GOITER.*

By John R. Wathen, Louisville.

While an immense amount of literature has been produced in recent years upon the subject of Graves' disease, we are just now reaching a stage in our knowledge of goiter when we can base more accurate conclusions upon clinical facts as seen in actual cases operated upon. The writer's own experience, now including 218 cases of goiter which I have treated surgically, covering a period of the last eight years, furnishes the data which I shall summarize and draw my conclusions for this paper.

Exophthalmic goiter is a condition now recognized as a result of hyperthyroidism, i.e. increased pathological activity of the thyroid gland. It has been well said that in exophthalmic goiter the degree of intoxication is generally proportionate to the extent of the hyperplasia.

As to the real cause of Graves' disease there is still some diversity of opinion, but the writer believes the primary trouble begins in the thyroid gland and the other organs, later effected, are secondary. This view is the one at present held by Kocher, Mayo, Wilson and others.

On the other hand Crile does not accept that hypothesis, and advances his Kinetic theory, which closely connects the nervous system with its production. Plummer has well said that: "The clinical picture early in the history of Graves disease is that of a toxin acting directly on the more vital organs, most notably the central-nervous and vascular systems."

Although the etiology and pathology are still mooted questions, we are indeed fortunate that the diagnosis is comparatively easy, and the results of treatment by operation in well selected cases, in the hands of men of experience, are the most brilliant and gratifying of any surgical procedures. Any enlargement of the thyroid gland usually produces an accelerated pulse rate, some nervous symptoms, and the neck fullness causes a sensation of choking or smothering. It is especially in the exophthalmic type of goiter that the pulse remains greatly accelerated. and the other symptoms are most prominent

The varied enlargements of the thyroid gland, which we have called goiters, have been classified by the different authorities in many ways, due largely to our comparative ignorance of the exact physiology and pathology of this gland.

The diagnosis of the cystic types is comparatively easy, as they are usually round, protruding and generally freely movable. They somewhat resemble ovarian cysts in their appearance. Some attain a very large size. Of course exophthalmic symptoms are very liable to occur in these, and their early removal should be insisted upon as the results of operation are good.

The large adenomatous goiters, so often seen in Europe, are not of frequent occurrance in this country, as are also the fibrous and calcareous varieties. Cancerous goiters are seldom met with and can usually be diagnosed if far advanced, by their fixation to the surrounding structures and their stony hardness, cachexia, etc.

The most dangerous type of goiter and the kind most often found in this country, is the exophthalmic variety. These are easy to diagnose in the late stages after all the typical symptoms have developed, and much irreparable damage has been done, but to make an early diagnosis is sometimes extremely difficult.

The earliest symptoms which would lead us to a diagnosis are, mental irritability, tachycardia, vasomotor disturbances of the skin, tremor, muscular weakness, loss of weight and exophthalmos. Often the thyroid gland is so slightly enlarged that it has been overlooked by the physician treating the case, and the patient has been treated for almost every other disease except the real trouble.

What are the indications for treatment after our diagnosis has been made? They should all be given first, rest, and by that is to be understood a real rest in the fullest sense of the term, i.e. avoidance of all excessive exercise, or excitement and a life of quiet and ease.

It has been clearly demonstrated by the Kochers that iodine not only does no good, but may be very harmful in that it may stimulate an adenomatous or cystic goiter to become the exophthalmic type. Likewise all preparations of thyroid are contraindicated. Electricity is of no value and tends to excite an already overnervous patient.

I formerly believed that a larger percentage of these cases were cured by this treatment, but as my experience has ripened and I have had better opportunities for studying Graves' disease, I am now firmly convinced that what has occured under non-surgical treatment has been that the acute symptoms have subsided and we have a temporary stage of quiescence.

True the size of the tumor has apparently disappeared, but upon operation later, we are surprised that even this is not true, as what really has occurred is that the long continued pressure has absorbed the fat layers of the neck, caused an atrophy of the muscles, etc., and the tumor has sunken deeper into the folds of the neck.

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*Read before the Muldraugh Hill Medical Society.

This is an apparent reduction of the size the fallacy of which I have time and time again demonstrated at the operating table, and in this connection let me say to those surgeons undertaking the operation, that these are the most difficult of all goiters to remove and the most liable to cause the recurrent laryngeal nerve to be injured, with resultant voice paralysis. True that some cases have shown signs of improvement under medical treatment, but this has been proven to occur independent of any treatment whatsoever; in fact, they often do best if kept quiet and given no medicine at all.

Based upon a comparatively large experience, I should say that if we delay operation for several years, administering iodine and electricity until the heart muscle has undergone degeneration, albumen in the urine, enlargement and fatty degeneration of the liver, lowered blood pressure, etc., we have waited too long to attempt any radical operative measure and these patients will generally die.

The proper time to advise operation with the expectation of a low mortality and good results, is after this thyroid enlargement has begun to manifest the early symptoms of exophthalmic goiter, and has existed for several months with little or no signs of improvement.

In the selection of our patients for operation, we should realize that early operation, before complications have arisen, as in appendicitis, gall stones, etc., offers the best results. Those cases whose pulse is not over 120 to 130, and which under careful preparatory treatment, can be reduced to 100 or below, and whose arterial tension is not far below normal, will usually give good results. It is that class of cases where no preliminary treatment seems to be able to make such temporary reduction which seems to be especially dangerous. I have carefully studied my operated cases, and I have noted that all patients in whom I was not able to reduce the pulse in preparatory treatment to below 110, had died, and I lost no patient in whom we were able to reduce the pulse to below this figure—this observation, irrespective of the original condition of the pulse when the patient entered the hospital. In other words, a patient entering the hospital with a pulse of 180, and reduced before the operation to below 110, always recover, and one entering the hospital with a pulse of only 120 to 130, and not reduced below 110, always died. Those with intermittent pulse are the most dangerous, irrespective of the pulse rate.

The removal of the thyroid gland in late cases is useless, as the real damage has been done to the other organs and it is too late to expect much repair. Likewise the supposed cures by medicine occur only after the thyroid has exhausted itself of its poison and damaged to its limit the heart, liver, etc.

It is little short of marvelous how in a few days the heart beat will drop from 140 or more to normal. Of course in cases of long standing with a badly damaged myocardium so great an improvement cannot be expected.

The exophthalmos usually shows a slower improvement, and the skin, hair and menstrual irregularities gradually change for the better.

The mental or morbid psychic state is the earliest to disappear. Digestion soon improves and the muscular power returns early. In cases of long standing these changes for the better are slower to make their appearance and in the very worst cases we should expect but little improvement as we are only dealing with the wreckage after the storm has passed over.

Compared with other surgical cases, the immediate and remote results of operation, in the hands of the experienced can offer as good or better results than many conditions like appendicitis, etc.

All the patients operated upon by me and who left the hospital as cured, have remained as cured or greatly benefited, the latter class being of course the cases seen late in the progress of the disease.

No case has since died from symptoms like Graves' disease. In my earlier work, and in the work of the other few doing a large number of goiter operations, there were a few cases where, when one lobe was removed, the other subsequently enlarged and required a secondary operation.

Fortunately, I have since learned the art of preventing such an occurrence, and no case in the last two years has returned for a secondary operation for this condition.

Furthermore, I believe we have now almost completely mastered the greatest drawbacks to goiter operations, i. e. the injury to the recurrent laryngeal nerves and the resultant paralysis of the voice, either complete or partial paralysis. Kocher attempted to overcome this by local anaesthesit with over 5 per cent of paralyses. Mayo's percentage under general anaesthesia was much larger, while the writer with his original technique has had no permanent injury in over 200 cases.

We consider our patients as cured if they can undergo nervous shock like grief, worry or fright, with no more excitement than a normal individual.

One prominent goiter surgeon has well said: "I know of no class of patients who are so intensely grateful, who become such militant partisan advocates of the operative treatment of this disease as the cured cases. There may be some hesitation on the part of the general practitioners to recommend surgical treatment for Graves' disease, but the cured patients share no such doubts. They are stronger advocates of operation than the most surgical surgeon."

My own mortality has not been much over 5 per cent. and I have benefited all upon whom I have operated, apparently cured permanently about three-fourths and the remainder offered relief to some extent.

ANTERIOR POLIOMYELITIS.*

By B. J. Bolin, Glensfork.

This disease is characterized by an acute onset with fever as a rule, by an early and extensive loss of power, and by consiberable degree of spontaneous improvement in certain groups of muscles, while other groups remain permanently paralyzed, and undergo a rapid and marked atrophy.

ETIOLOGY.

The greater number of cases develop during the first three years of life. Boys are more frequently affected than girls. Heredity seems to play but a small part in the production of the disease. You rarely see more than one case in the same family. About eighty per cent. of cases occur during the warm months of spring, summer and fall, although it is stated by some authors that exposure to cold is a causative factor in the production of the disease. Owing to the fact that most cases occur during the second year, the disease is frequently ascribed to dentition, although this is thought to be in most cases merely a coincidence. Traumatism is sometimes given as a cause, but the number of cases resulting from this cause are comparatively few. The disease may come on as a sequel to diarrhea, scarlet fever, measles and in fact nearly all of the diseases of infancy. Dust seems to play an important role in the transmission of the disease. In some of the worst epidemics in the cities there was a marked subsidence of the disease on getting rid of the dust. The real cause of the disease is as yet unknown. It is thought by some late observers to be caused by a germ very closely related to the tetanus bacillus.

Owing to the close relation of the blood vessels to the diseased area of the cord, the infection is supposed to be carried by infectious thrombosis or embolism.

LESIONS.

The origin of this disease is in the gray matter of the anterior portion of the spinal cord. The early changes that occur in the cord are very little understood and are a matter of dispute, but the later changes are pretty well understood and are agreed upon as the post-mortem finding are practically the same in every case.

Where the case has lasted for some time, the part of the cord affected is much smaller than normal. One lateral half is usually affected, the ganglion cells are few in number or have entirely disappeared. Those that remain are shrunken and are hardly recognizable. The anterior nerve roots are degenerated along their entire course to the muscles, the changes in the cord are of a sclerotic character. The muscles show a marked atrophy and frequently the fibres are converted into adipose and fibrous tissue. The affected limb is much shorter and the bones smaller than those of the opposite side.

SYMPTOMS.

The child is taken suddenly ill with vomiting, pain in the legs, or extreme sensitiveness, and a temperature of from 101 to 103 degrees F. Three or four days after these symptoms the paralysis is discovered. In a small number of cases the attack is ushered in by more severe constitutional symptoms, such as convulsions, delirium, a temperature of 103 or 104 degrees F., great general prostration, constipation, severe pains in the back and extremities. In some cases the general symptoms are hardly noticeable. Frequently a child may be seemingly well on going to bed except a little restlessness and on awakening in the morning the paralysis is discovered. Sometimes a child has an attack while walking in the street. In these cases, it is probable that the child had previous symptoms of such a mild character as to escape notice. These children complain of pain along the course of the spinal nerves, of tingling and numbness and other disturbances of sensation for a few days before the onset of the paralysis, the development of which is very rapid, often getting to its maximum degree in twenty-four hours. Although it may be a week or more before its full extent is seen. The paralysis is most frequently seen in one lower extremity only, the next most frequent being both lower extremities. It is very rare to see any involvement of the sphincter. After the development of the paralysis very little change is noticed until from one to four weeks have passed, after which spontaneous improvement is noticed in the muscles last affected. This improvement continues for about three months after which there is no further change—the paralysis remains permanently. By the end of two months longer there is marked atrophy of the muscles with considerable shortness of the affected limb. Owing to the great relaxation of the ligaments we may have subluxation, especially of the knee and at the shoulder.

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*Read before the Daviess County Medical Society.

DIAGNOSIS.

At the onset of the disease there is nothing characteristic about the general symptoms, but later with a rapid wasting the spontaneous improvement in certain groups of muscles and with very little sensory disturbance we can hardly confound this disease with any other. At the beginning it may be mistaken for the paralysis resulting from acute transverse myelitis. In this we get anaesthesia, exaggerated knee-jerk, ankle-clonus, involvement of the sphincter, slight wasting, a tendency to bed sores and no reaction of degeneration. Multiple neuritis is distinguished from anterio polio-myelitis by its gradual onset, by the presence of pain and other sensory symptoms, the loss of power and spontaneous recovery in a few months.

The diagnosis from cerebral palsy is made by the presence of rigidity, no reaction of degeneration, very little atrophy and a history of onset with marked cerebral symptoms. The most important diagnostic point is the electrical reactions.

PROGNOSIS.

The prognosis is good so far as its danger to life is concerned. The most important question in the prognosis is, will there be any permanent paralysis, and what will be its extent? In answering this question we have to be governed by the amount of wasting, and the way in which the muscles respond to the faradic current. Muscles that have in a week or ten days lost completely their faradic contractability are almost sure to undergo great wasting. If after only a few days we get a slight response to the electric current, the probability is the muscle will in part regain its former strength. If the faradic contractibility is completely lost for four or five months recovery is doubtful. If for two years recovery is impossible. In cases where complete recovery takes place the lesion must be very slight.

TREATMENT.

At the very beginning we want to bring about free diaphoresis, by hot baths. Keep the patient in a lateral or prone position and use counter irritation by means of dry cups, etc. Ergot is suggested by some on theoretical grounds but seems to be of very little service. After the acute symptoms have subsided electricity and massage may be used to keep up the nutrition of the muscles. As soon as a tendency to deformity is discovered proper mechanical appliances should be used. In conjunction with these measures we use myotomy and tenotomy but as we all know the treatment is very unsatisfactory and the result depends more upon the severity and extent of the original disease than any particular line of treatment employed.

URETHRAL STRICTURES AND THEIR TREATMENT.*

By J. T. Windell, Louisville.

The urethra of the male has a double function and although the urinary is considered secondary to the genital one, we are called oftener to treat diseases that interfere with the free and painless passage of the urine through this canal than we are to aid those afflicted with some departure from the natural performance of the genital act.

Strictures of the urethra are probably more difficult to completely cure, entail more suffering to the man who has one and have more disastrous complications and sequellae than diseases of any other of the natural openings of the human body.

The close relationship that exists between the genital and the urinary function can, to some extent, be blamed for many of the pathological conditions of the male urethra.

The gonorrhoea, that ubiquitous disease causing more than 90 per cent. of the strictures, is always contracted during sexual congress; with a very few exceptions reiorded against this statement.

The urethra of the female that is in no way connected with the genital function is very seldom the seat of venereal disease. Gonorrhoeal urethritis complicating only about ten per cent of the cases of gonorrhea in the female; and I have recorded only two cases of stricture of the female urethra. Both of which may have been the result of traumatism during child-birth.

We may define stricture of the urethra to be a condition of the canal attended by decidedly well-marked contraction or stenosis, an utter loss of normal dilatability caused by an inflammatory process which produces a sclerosis of greater or less density and contractile power. (R. W. T., V. D. 1895.) In many cases the morbid process is sharply limited to the sub-mucous connective tissue coat, which may be involved to a greater or less extent. There may be a narrow band of stricture tissue, which may occupy only a small part of the circumference of the tube, or it may be more extensive, even to the formation of many rings.

The pendulous urethra may be the seat of true stricture formation throughout its entire length. As the disease process advances there is more or less invasion of the corpus spongiosum.

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*Read before the Kentucky Midland Medical Society, Frankfort, April 12, 1913.

The round-cell inflammatory infiltration is extended into the superficial meshes of the erectile tissue. The whole spongy body may be so involved that the penis assumes a semi-erect condition at all times. These structural changes continuing, the canal becomes smaller and smaller, the expulsive power of the bladder is required to exert a constantly increasing amount of force in order that the resistance may be overcome, resulting in hypertrophy of the bladder walls, and dilation of the urethra behind the stricture. Abscess and fistulae develop at times in the neighborhood of stricture. Small ulcerated spots allow the escape of germ laden urine into the surrounding connective tissue. They then burrow in various directions, and form hard circumscribed masses on the external surface, which often give rise to fistulae, of which many may open on the perineum, the scrotum, thighs and upon the abdomen as high up as the umbilicus. (R. W. Taylor, Genito-Urinary Venereal Diseases and Syphilis, 1904.)

To the most common cause I must add that mal-treatment of the inflammatory results of the invasion of the gonococcus of Neisser, furnish as many, if not more, cases of pathologic narrowing of this canal than the clap itself would if left without the local treatment that the majority of cases receive. I must admit here that I do not consider gonorrhoea a self-limited disease, or that we can with our present therapeutics, correctly prognosticate the ultimate results of this disease, but I am convinced by the study of many cases, both those recently acquired, and those of long duration, that much harm has been and is being done to this delicate mucous membrane by methods of treatment that would not possibly be used either by physicians or patients on any other part of the human anatomy.

The almost universal use by physicians at the present time of strong solutions of the newer preparations of nitrate of silver, "and the magnitude of the commerce of this class of drugs is attested by the fact that every pharmaceutical establishment of any importance is responsible for one or more preparations of so-called painless tissue penetrating and gonococci annihilating silver substance for the treatment of gonorrhoea," is the cause of frequent stricture of the urethra. This is explained in the same manner as the results of another chemical irritant to a mucous membrane.

The diagnosis of stricture of the urethra made by the patient himself on account of his inability to properly void his urine or to complete retention of the urine due to closure of the canal by inflammatory exudate or by the doctor in the investigation of the canal for allied disorders.

For the scientific diagnosis and location of stricture of the urethra, we have a series of instruments called bougie, a boule. These are of two kinds; rigid, made of metal, and flexible, made of silk and varnish. Either sort, in the hands of experts, are instruments of precision.

The size, location and density of the stricture is readily determined provided that it be of sufficient caliber to allow the instrument to pass, and the inflammation be not so acute as to cause a spasmodic closure of the canal.

Several other instruments have been invented for the diagnosis of stricture and some of considerable mechanical ingenuity, but I consider the Bougie a boule the ideal one for this purpose; for the principal reason that perfect sterilization is so easy. Formerly both for the diagnosis and the treatment of stricture local anaesthetics were used in most every case, but we have learned that we succeed in locating the offending bands and are most successful in introducing instruments through them if we have the sensation of the patient to guide us and are less liable to injure the delicate strictures to cause false passages, or to introduce the instruments into some of the smaller passages that lead from the urethra.

To relieve the patient of his inability to empty his bladder, if such a contingency exists, is of prime importance and should be accomplished without delay, we may then resort to measures to restore the urethra to its normal calibre and resiliency.

Many instruments have been devised for the treatment of strictures: catheters of many shapes, sizes and materials, bougies large and small, curved and straight, tapering and cylindrical, solid and hollow, metal, wood, bone, rubber and the various fabrics such as linen, cotton, silk and silk-worm gut have been used for the manufacture of these instruments.

For the treatment of close strictures at the bulbo-membranous juncture, we must of necessity use instruments of the smallest size in order that they may enter the opening that is usually still remaining, and we use for this purpose, filiform bougies of various substances, either flexible or semi-flexible. Probably one of the most useful instruments of this class is the Banks' dilating whalebone bougie. This is small and gradually tapering for six or eight inches to the larger shaft that is usually uniform in size so that if it can be made to enter at all, we can push it through the stricture into the bladder thereby dilating the stricture to a degree that will allow either a large instrument of the same kind or bougies of the various other kinds that we have at our disposal; or for the introduction of a small catheter.

Many ingenious devices have been invented for instrumentation of the urethra when we have to deal with a close stricture at the bulbo-membranous juncture and most all of them applicable at times to the many different conditions that we encounter here.

The Maissoneuve instrument for internal urethotomy, combining as it does a filiform bougie, which after its introduction through the stricture is attached by means of a screw thread to the metallic shaft, which then follows the filiform through the stricture in order that the blade may be properly guided and incision made only through the stricture tissue. This instrument was formerly a popular one, and in the hands of experts has been the means of relieving many overdistended bladders, the result of strictures. The use of this instrument is not unattended by danger as it is impossible to determine just exactly how much of an incision will be made and even though the smallest blade be used, a blood vessel may be severed and alarming hemorrhage follow. I have been unfortunate enough to have had severe hemorrhage follow the use of this instrument on three occasions; in two of these cases the hemorrhage was controlled by perineal pressure by the use of the ordinary "T" bandage; the other case required continuous pressure made by a wooden crutch kept in position for three or four days.

After we have succeeded in passing an instrument into the bladder of sufficient size to allow the escape of the urine, we must use our efforts to restore the canal to its usual size. This is best done by the daily irrigation of the urethra and bladder with an antiseptic solution prior to the use of the dilating instruments. This solution must be unirritating at all times, used at the body temperature and with sufficient force to introduce two or more ounces into the bladder. For this purpose it has been our custom to use a saturated solution of boric acid as this meets all requirements. If, however, a solution of a stronger antiseptic such as nitrate of silver or permangate of potassium be used, we may cause sufficient irritation of the urethra that we will have to deal with retention of the urine again. The intervals at which we use the dilating instruments depends entirely on the condition of the urine and the exigencies of the case.

When by the administration of the urinary antiseptics, that I will say we are fortunate at the present time to have, chief of which are the wonderful ammonium formaldehyde preparations that were invented by Nicolier. Urotropin of course heads the list and has been the means of reducing the dangers of urosepsis that formerly frequently attended instrumentation of the urethra to nil.

It is, as a rule, easy in a great majority of cases, no matter how tight the stricture may be, to introduce some sort of instrument into the bladder. While this may be tedious, if we are endowed with patience and have the proper gentleness of manipulation of the instruments selected, the closest stricture will usually succumb to our efforts. After passing the smallest instrument the length of the urethra, the patient is usually able to force the urine from his bladder, and the attempt at irrigation with antiseptic solution can be made and we are usually able to irrigate the bladder by hydrostatic pressure.

Two very important matters while dealing with close strictures of the urethra is to determine first, if the bladder is capable of emptying itself and, secondly, the withdrawal of the urine from an overdistended bladder.

We may have to treat the case sometime before we are able to introduce even the smallest catheter into the bladder, and as it may contain residual urine, we must use every effort possible to keep this sterile.

The withdrawal of the urine from an overdistended bladder the result of stricture of the urethra is an operation that is attended by many difficulties, and requires patience and a delicate technique in the handling of the many and various shaped instruments that have been devised for this purpose, and a thorough knowledge of the anatomy of the organ.

If we have ascertained that we are dealing with a stricture of long standing and of very small calibre, we are wasting valuable time and subjecting the delicate mucous membrane to traumatism and possibility of infection by repeated attempts to introduce sounds, bougies and catheters other than those of the smallest calibre, and the use of these instruments should not be continued for a protracted time in attempting to pass such an obstruction as the injury to the urethra thus occasioned will delay the cure and render other procedures more hazardous.

Complete retention must be relieved and speedily, to prevent that most disastrous of complications to stricture of the uerthra, extravasation of the urine is to the soft tissue of the penis, scrotum and abdomen.

If the attempts to introduce the various instruments at our disposal have been futile and the distress of the patient is not too great, a hypodermic of morphine will at times relieve the intense desire and give the inflamed and lacerated urethra a chance to relax and the patient will often be able to at least pass a portion of the contents from his bladder. A hot bath accompanied by rectal enema will at times accomplish the same results; and I have frequently been rewarded by the beneficial results of this latter procedure. The dilating or catheterizing instruments often passing the offending obstruction, or the patient has been able to pass enough urine to relieve his extremity.

Most strictures are amenable to treatment by gradual dilation and I think this is the method of all conservative surgeons.

When the urine is comparatively free from pus ana the bladder completely empties itself, the necessary dilations can be made at frequent intervals and the size of the instruments used increased in size as the offending bands gradually disappear, until the normal calibre of the urethra has been reached, and I would add that slight overdistention is necessary in order that a complete absorption of the old deposits of the infiltrating tissue take place. It is often necessary in order to introduce an instrument of sufficient size, to enlarge the meatus, and I do not hesitate to do this when necessary; but always try to make the opening of just sufficient size and endeavor to not injure this part of the canal permanently by making a very large and flaring opening that always prevents the proper propulsion of the urinary stream.

The urine should be examined and the bladder irrigated with an antiseptic solution before the passage of the dilating instruments. Should the fluid be contaminated by much pus or bacteria, daily treatments should be given until the urine shows distinct improvement, and then the regular treatments can be again continued. The filling of the bladder with solutions of boric acid, permanganate of potassium, nitrate of silver, or other antiseptics that may be sélected, serves a double purpose. The urethra is temporarily sterilized and the fluid in the bladder prevents the instruments from coming in contact with its walls and lessens the liability to traumatism.

The natural calibre, length and curvature of the urethra varies in different individuals as do other organs of the body, and due allowance of such variations must be made in the selection of instruments for the proper treatment of strictures. The lowest point of the urethra is just in front of the triangular ligament, where it lies about an inch beneath the symphysis pubis. From this to the meatus the canal takes any position according to the direction given the penis. Toward the neck of the bladder, however, the urethra is said to have a fixed curve. This is not strictly true, for we constantly introduce straight instruments into the bladder, but in order to do so the canal is diverted somewhat from its normal course.

The proper average curve as recognized since by Sir Charles Bell and insisted on by Sir Henry Thompson, the one which will mathematically accord with the greatest number of urethra, is that of a circle three and one-quarter inches in diameter; and the proper length are of such a circle, to represent, the sub-pubic curve, is that subtended by a chord two and three-quarters inches long.

However, I have found it necessary on a number of occasions to have constructed instruments that varied very materially from this rule, in order that the urethra could be properly manipulated.

We have recorded the history of one hundred and thirty-six stricture cases in private practice. Of these, fifty-nine were of the close variety; sixty strictures of medium calibre, that is, admitting bougie a boule up to twenty French, and fourteen were strictures of large caliber of twenty French up.

Of this series of one hundred and thirty-six cases, we have had six that were complicated by fistulae. Hemorrhage of severe character followed the operation on four of thees cases, and urosepsis of varying degrees was encountered in eight cases.

Three of the close strictures were traumatic in character.

Internal urethrotomy was done thirty-four times and external urethrotomy six times.

BIBLIOGRAPHY.

Robert W. Taylor, Venereal Diseases 1895.

Robert W. Taylor, Genito-Urinary Venereal Diseases and Syphilis, 1904.

Edward L. Keyes, Genito-Urinary Diseases.

Gouley. Surgery of the Genito-Urinary Organs.

M. Krotoszyner. Clinical Aspects of Urosepsis.

Enucleation of Prostate.—In White's method the sound being introduced into the bladder, an incision is made, beginning about one-fourth inch in front of the anus, in the median line, and extending up to near the scrotum, through skin and fascia; then the knife is thrust deeply to the prostate. It is then withdrawn and the hand of the operator is well lubricated with sterile glycerin or liquid petrolatum. His two fingers are introduced to the prostate and the wound is dilated as widely as possible by them. If need be, the tissues are incised transversely. Then the entire hand, well anointed, is introduced into the incision. Now a knife is introduced and, guided by the fingers, two incisions are made through the capsule anteroposteriorly on each side of the urethra. The knife being withdrawn, the finger first enucleates the middle lobe through these incisions, being careful to keep intact the urethra, then the lateral lobes are enucleated by the fingers.

SURGICAL TREATMENT OF BILIARY CALCULI.*

By Louis Frank, Louisville,

It has always seemed to me that accuracy in diagnosis and a thorough appreciation of the pathology actually and potentially present were of greater importance than the purely mechanical part of surgery. The latter may be perfected upon the lower animals or cadavers, but to elicit histories which are of value, to correlate and adjust symptomatology and clinical findings, requires painstaking study, keen observation, the ability to correctly interpret and analyze ascertained facts which can only be acquired by extensive observation in the sick-room, at the operating table, and at necropsy; and alongside of operative skill and dexterity must be placed surgical judgment—difficult and sometimes impossible of acquirement—something which cannot be taught, largely dependent upon temperament, and to a measure inherent in the individual.

The pathology of gall bladder disease as presenting on the operating table may be so extensive and diversified as to baffle the most experienced, calling for quick decision, extreme patience and laborious work, and requiring an after-treatment so varying from the ordinary routine that the least error in the subsequent management—just as an error in the selection of cases demanding postponement of operative intervention—may result most disastrously.

That operations for calculi of the choledochus tract are easy, the most satisfactory to surgeon and patient, or the safest in the entire domain of operative abdominal surgery, are statements sometimes made, and while applicable to the majority of a certain class of cases (though not all), are subject to much modification in many instances, and to absolute contradiction in some! From a considerable experience I am forced to conclude that some of the most difficult, complicated and dangerous operations, the outcome of which has not always been entirely satisfactory to either myself, the patient or to the family, have been among those undertaken for the relief of biliary disease.

As a basis for these remarks the notes of our last one-hundred cases of cholecystotomy and other operations upon the bile passages during the same period have been used, which may be divided for the purpose of discussion into the following groups:

(1) Cholecystitis with or without calculi, including the acute, suppurating and gangrenous types:

(2) Stone in the gall bladder without cystic or common duct obstruction, and with no acute infection.

(3) Cystic duct (calculous) obstruction with or withoue stone in the gall bladder, and without acute cholecystitis.

(4) Common duct obstruction with or without stone in the cystic duct or the gall bladder.

First: In acute empyema of the gall bladder without calculi, the cystic duct becomes obstructed from swelling of the mucosa, and round cell infiltration of its walls from bacterial invasion; therefore, the surgical treatment must contemplate ample time for subsidence of this inflammation of the interstitial structures. The unexpected relighting of preexisting infection has occurred in only one instance in my experience, although I have observed quite a number of cases of empyema of the gall bladder with infected walls and impaired circulation, all of which were drained for periods varying from four to ten weeks. In this group the most striking fact has been the low death-rate following cholecystostomy, regardless of the condition of the gall bladder or the nature of its contents. Equally good results have been obtained in badly infected cases, either with or without calculi, in the presence of localized peritonitis with plastic exudates, in the adherent and in the free gall bladder.

While I do not desire to discuss the particular technic of operation in this group of cases, the best results can be obtained only (a) by the most careful attention to detail, (b) by the absolute prevention of peritoneal soiling, (c) by careful suturing of the gall bladder, (d) by proper placement of the biliary drainage-tube, and (e) by drainage of the renal and hepatic-duodenal fossa if there be the least escape of gall bladder contents into the peritoneal cavity. The rule to drain when in doubt must here be adopted. We must remember that we are close to the large lymph spaces of the diaphragm, and that absorption takes place in the upper abdomen too rapidly for the peritoneum to throw out a protective wall of lymph and isolate the area.

It has been found unnecessary to completely remove the gall bladder for either gangrene or acute infection. My practice has been to preserve all of the viscus possible after the gangrenous areas were excised, i.e., the gall bladder has been partially resected, the defect closed by two rows of Lembert sutures, and drainage of and around the gall bladder, the area being protected by coffer-damming with gauze, or with gauze and rubber-dam. It is in acute infection, which invades the wall slowly giving nature time to protect by adhesions of the stomach, duodenum, colon, omentum, etc., that subsequent to operation the patient may return complaining of incomplete relief, though all stones have been removed. Two such cases have been observed where secondary operation became necessary before complete relief was obtained.

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*Read before the Kentucky Midland Medical Society, Frankfort, April 12, 1913.

While it would seem that in gall bladder infection with or without calculi adequate drainage (with removal of calculi when present) should afford satisfactory relief, yet cases have been encountered where this was not true; and it is this type which may cause subsequent trouble to the surgeon and be unsatisfactory to the patient and the family.

In the two cases where secondary operation was required, the patients were prominent citizens of this State. The first (No. 1337), a supreme court judge, had a cholecystitis, and had been under active treatment for five or six years with the mistaken diagnosis of gastritis! And it may be said, *en passant,* that the majority of patients with biliary disease that come to operation have been treated for a longer or shorter period for "digestive disturbances," diagnosticated as either dyspepsia, indigestion, gastritis, or some other equally meaningless term! I had in mind such diagnoses when speaking of the necessity for careful examination and diagnostic ability. This patient had an acute obstruction of the cystic duct, the correct diagnosis having been made by his family physician, Dr. Hill, and not by the specialist under whose treatment he had been. Dr. Hill, who referred the patient to me, believed for some time that he had a gall stone, but notwithstanding this one of our city specialists had diagnosed gastritis for which he had persistently and continuously treated the patient for the period mentioned. During the attack of acute obstruction the family physician induced the patient to consult a surgeon and brought him to me, when he presented (as shown by operation and verifying Dr. Hill's diagnosis) an acute empyema due to cystic duct calculus which obstructed the outflow from the gall bladder. Drainage with removal of the calculus was instituted, and despite the fact that the patient had a high arterial tension and chronic interstitial nephritis with the usual concomitant symptoms, he made a satisfactory recovery, being dismissed from the hospital in three weeks. Subsequently, however, there was a recurrent attack of pain, profound jaundice later developed which persisted two weeks, necessitating re-opening the gall bladder, which was done through the old incision without an anesthetic. After closure of this incision there was another attack of jaundice which subsided under active purgation, since which time the patient had had no further trouble and it is thought will have none. This is mentioned as one of the cases which may not be considered satisfactory from every standpoint.

The second patient (No. 1359), operated upon about the same time as No. 1337, was a congressman who presented with acute suppurative cholecystitis due to calculous cystic duct obstruction. At operation many soft irregularly faceted calculi were removed, and the gall bladder drained. He remained in the hospital only two weeks, the drainage-tube being *in situ* when dismissed. He made an apparently complete recovery, but after returning to Washington began again to suffer with pain, and while there had not previously been any jaundice, he now became icteric and returned in about a year distinctly yellow and complaining of the same painful symptoms as before the operation. A second operation revealed numerous adhesions extending to the junction of the cystic and common duct and causing traction upon the same, thus inducing obstruction with jaundice. The adhesions were separated and the bile tract thoroughly palpated, but no further (overlooked) calculi were detected. A large piece of rubber-dam was placed between the biliary tract and the adjacent intestines and the wound closed, the ruber-dam being removed six or eight days later. The patient has had absolutely no further trouble, and having passed through an active and successful campaign, is now busily engaged with his duties in Washington.

In studying these two cases retrospectively, I do not see that any kind of treatment, or anything that might have been done, would have altered the course and subsequent history as presented by the clinical pictures. Both were considered easy cases, though both presented active, recently developed, localized peritonitis around the gall bladder. In both drainage of the general peritoneal cavity was practiced, as is usual in such cases. Neither had any complications during convalescence, both leaving the hospital in the usual time. That they were entirely satisfactory to the operator, to the patient, to the family, or the family physician, I do not believe. And a second sojourn in the hospital, with a major operation upon one and a minor operation upon the other, became necessary before complete relief was obtained.

Second: All the cases in group two were satisfactory in every respect. However, in this class there may occasionally be an unexpected result which may not entirely coincide with the prognostication prior to operation, i.e., a condition may well be conceived where infection surrounding the gall bladder may have made necessary the extensive separation of adhesions, and drainage not having been adequate angulation of the common duct may have ensued, or adhesions may have recurred, thus inducing much discomfort and perturbation to both patient and surgeon. In the *Annals of Surgery* for February, 1913, Stretten reports a case of angulation at the junction of the hepatic and common duct, after cholecystostomy, which simulated common duct obstruction and necessitated a second operation. He mentions the fact that Kehr attributes this complication to faulty operative technic, but I agree with the author that it is possible for such a result to accrue without fault in the technic from the standpoint of drainage, and that it may be due (as he says) to the operation, *per se.* Kehr ascribes this sequel to inordinate tension upon the gall bladder in attaching it to the abdominal wall; but if the method we have been using for ten or twelve years be employed, viz., of fixing a tube in the duct and inverting the gall bladder around the tube by what might be termed a Lembert purse-string suture, traction upon the gall bladder cannot possibly ensue. In the cases mentioned, while this method was followed, obstruction existed notwithstanding.

In the performance of cholecystostomy, even in simple and uncomplicated cases, the incision should be sufficiently large to permit introduction of the entire hand within the abdomen and complete palpation of the gall bladder and the cystic and common ducts. No gall bladder operation is complete unless this has been accomplished. Even with digital palpation through a sufficiently wide incision, enlarged glands may sometimes be mistaken for calculi resident in the ducts, and *vice versa.* In one of our last cases—a patient of Dr. Buckner, of Shelbyville—in which sixty-six calculi were removed it was believed at the conclusion of the operation that a stone remained in the cystic duct. Being unable to locate the calculus with scoop and careful sounding of the dilated duct, and being unsuccessful in bringing a stone back into the gall bladder by manipulation, the area was more completely exposed and after inspection the supposed calculus proved to be an enlarged lymphatic gland. The operation had been prolonged (not unnecessarily we think) about twenty minutes in the effort to demonstrate that there were no other calculi present before closing the incision. In not only cholecystostomy but surgery for calculi in any portion of the bile tract, unless it be the hepatic ducts, the operation should not be completed until every stone has been removed. It is failure to do this which has led to the supposed reformation of calculi, i.e., the belief that they are re-formed subsequent to operation. In the large number of cases which have come under my observation, recurrent calculi have never been known to form in the gall bladder. The secondary formation of calculi is due either to improper suturing about the choledochus tract, in that the suture is passed into the lumen of the duct or gall bladder, or incomplete removal of the original calculi. It is, therefore, deemed advisable in doubtful cases to prolong the operation and thus make assurance doubly sure (in fact, a certainty), rather than complete the operation in a shorter time and have subsequent trouble from this source. All recurrent calculi granting proper introduction of the sutures, are stones overlooked at the previous operation.

Third: In cystic duct obstruction from calculi with or without stones in the gall bladder, quite a different proposition is presented. In some instances cases of cystic duct obstruction might fall under Group One, but we now have in mind cystic duct obstruction without suppurative cholecystitis. It is believed that in this class of cases cholecystectomy is not infrequently demanded. Calculi long resident in the cystic duct duct walls, that after removal of the stones contracture ensues which induces permanent cicatricial obstruction. In such instances the fistula does not close, the usual history being that notwithstanding cessation of the discharge of bile a mucous fistula continues to the great annoyance of the individual. While I do not mean to say cholecystectomy is not demanded in other types of cystic duct obstruction, it has been in this class that the gall bladder has usually been extirpated. However, if the obstruction is recent and the calculus large, cholecystectomy has not as a rule been required.

As to the technic of the operation: Absorbable material should be used for ligating the duct, and a cigarette drain placed to the stump which should always be inverted if possible. In several instances it was thought cholecystectomy would not be required, and while a mucous fistula persisted for several months, our judgment was finally proved correct by closure of the fistula and no subsequent trouble.

One such case was a Mr. S. (No. 1083), referred by Drs. Weidner and South, because of constant pain in his umbilical region. He presented some symptoms referable to the gall bladder, and in the operation for cure of the umbilical hernia, which was the greater cause of discomfort, several calculi were removed from the gall bladder. The fistula persisted six or seven months after the operation, and notwithstanding that the discharge was for the most part entirely mucus, that bile had drained freely, that there was occasional staining of the discharge with bile, it was believed the constriction would finally open which it did, the fistula subsequently rapidly healing. Since then the patient has been in good health.

The discussion of cystic duct calculi would be incomplete without reference to another point—and this also applies to the common duct—and that is crushing of the stone before its removal. It is contended that even after a calculus has been crushed it is impossible to remove all the particles; and if this has been unintentional, it is best that the gall bladder with the cystic duct be removed. That crushing of a calculus should ever be attempted intentionally and deliberately we cannot agree; in fact, to crush a stone in either of the ducts is not conducive to the best results. There will almost certainly be reformation of the calculi and further trouble necessitating subsequent operation. In our cases of cholecystectomy, there has not been a single death.

One result of cystic duct obstruction may be rupture of the gall-bladder. Two such cases have been observed, both of which completely recovered following removal of all calculi and prolonged drainage. One of these was referred by Doctor Weidner (No. 1431), the other (No. 1216) had been seen by a practitioner and a surgeon, of Louisville, both of whom had diagnosticated cirrhosis of the liver. The patient not only had calculi in the cystic duct, but common duct obstruction due to a tremendous inflammatory exudate about the gastro-hepatic omentum. Both patients recovered, although both were operated upon as a *dernier resort.*

Fourth: To group Four belong the worst type of cases from the standpoint of prognosis with which the surgeon has to deal. During the time that our one-hundred cases of simple cholecystotomy came to operation we had twenty-eight cases of common duct calculi, in twenty-six of which choledochotom was performed. Of these twenty-eight cases five died, three of them in uremic coma. All were operated upon under ether anesthesia, one had been suffering from jaundice since April, 1909, the operation being performed in April, 1912, a period of three years having elapsed during which common duct obstruction had existed.

One patient with common duct obstruction (No. 923) came to me after two operations had been performed in New Albany, Indiana, by whom is unknown. At the first operation some calculi were removed and the gall bladder drained. I do not know what was done at the second operation, but no benefit ensued, jaundice continued, and the fistula had not closed. After I had opened the abdomen considerable difficulty was experienced in freeing the gall bladder and ducts, a calculus being finally located in the common duct near the duodenum. While holding this stone between the thumb and finger preparatory to incising the duct, it slipped away and passed into the duodenum. Closure of the incision was followed by rapid recovery and complete healing of the fistula, since which time the patient has been passing bile in the stools, has never had an attack of jaundice, and is again able to earn her living as a seamstress.

Another (No. 1411) was operated upon about the same time as No. 1431. The woman had jaundice for six months prior to operation, and biliary colic for eighteen months. She was referred by Dr. H. F. Taylor, of Mangum, Kentucky. Operation revealed only one calculus, not faceted, dark green in color. Following drainage with tube, suture of the duct, and cigarette drainage outside, she made a rapid recovery, leaving the hospital within three weeks.

The next case (No. 1551) is interesting for the reason that fifteen years previous to coming under my observation the patient had passed twelve faceted calculi via the bowel. However, she did not become entirely well, having suffered from indigestion and "stomach trouble" for which she had been under the treatment of a gastroenteric specialist. During a visit to French Lick Springs, which she was advised to take on account of "her gastric disturbance," she developed jaundice, chills and fever. Returning to Louisville the patient came under my observation, referred by Dr. Weidner who then saw her. After being kept in the hospital about two weeks all fever disappeared and she was subjected to operation, a calculus being found in the common duct. I present for inspection the calculus removed from the common duct, also a faceted stone presented me by the patient as one of the twelve passed fifteen years ago. This case illustrates the fact that although a number of stones may have been discharged via the bowel, this is no assurance that calculi may not continue to be present in the bile passages, nor is it an argument against operative intervention, provided the patient presents symptoms referable to the gall bladder region, be they digestive or otherwise.

Among the common duct cases I wish to cite one (No. 1556) referred by Dr. Demaree, of Frankfort, in a patient aged thirty-six, as illustrating what should and may be accomplished by proper treatment. When brought to the hospital this woman was delirious, and had high fever, repeated chills, and marked jaundice. In about ten days the temperature declined to normal, the chills disappeared, and the jaundice somewhat subsided. She had marked renal changes, with albumin and casts in the urine. After "flushing" the kidneys and active purgation her condition sufficiently improved to permit operation, which was performed under gas anesthesia by the anoci-association method of Crile. Ninety-one calculi were removed from the gall bladder and one from the common duct. She made a rapid recovery, returning home relieved two weeks after operation.

In summarizing it is not difficult to appreciate that considerable difficulty may occasionally be encountered in the treatment of biliary calculi, and from the standpoint of mortality the unfavorable cases are among those of common duct obstruction. This is due to several reasons: (a) the majority of these patients, shortly after obstruction begins, have an irritative nephritis, or an exacerbation of a pre-existing nephritis, (b) the greater percentage are over forty years of age, and (c) in addition there may be cholangitis with chills and high temperature accompanying jaundice.

Patients with common duct obstruction presenting rigors and high temperature in addition to jaundice, are not good surgical risks, and during this stage of the disease operation should not be undertaken. It was in this type of cases that Kehr, as mentioned in his work and as stated by Murphy, had a mortality of ninety per cent. From correspondence with numerous surgeons I have ascertained that they do not operate during this stage, the opinion prevailing that operation performed at this period would be followed by a mortality varying from thirty to sixty per cent., as expressed by my various correspondents. Under the circumstances cited operation should be postponed, and by the institution of proper treatment practically all the patients can be safely tided over to a non-septic interval. By this interval I mean that period when, as a result of the damming of the bile behind the calculus it is gradually loosened in the duct because of the over-distension and floats upward permitting escape of the infected biliary secretion, following which there is subsidence of jaundice and disappearance of the rigors and fever. At this time, when cholangitis is quiescent (so to speak), and jaundice has partially subsided, operation may be performed with the least danger to the patient. Even under these circumstances, however, the mortality will be higher than in operations for calculi elsewhere in the choledochus tract, i.e., from five to twenty per cent., depending upon the operator and the condition of the patient. In studying the mortality of surgery for common duct obstruction, it is impossible to consider all cases as they come *seratim* and draw any definite conclusions, as those with kidney disease, vascular changes, and advanced in years, will show a higher mortality than younger individuals; similarly cholangitis is unfavorable to a lower mortality.

I have previously mentioned the reasons for not crushing a calculus in the common duct. Even if the common duct has been incised for removal of a stone which has been crushed, it is almost certain all the fragments cannot be removed and calculi will reform either here or in the hepatic duct. It is preposterous to talk of removal via the gall bladder of common duct calculi which have been crushed. One has only to recall the anatomy of the cystic duct to appreciate the utter futility of attempting the removal of a calculus in toto or crushed with a scoop or otherwise via this route. Notwithstanding this self-evident fact, we read in the literature that stones are removed by a scoop, with or without previous crushing, from the common duct through an incision into the gall bladder.

Chronic pancreatitis has not infrequently been noted in our operations for chronic biliary disease, but this observation has become common since Robson called attention thereto, and since our appreciation of the relationship of the bile duct to the pancreas and the pancreatic ducts. It is well to remember the possibility of acute pancreatitis (often with fatal termination) when the diagnosis of gall stones having been made delay of their operative removal is advised, consented to, or at the patient's solicitation concurred in; furthermore, that chronic disturbances of pancreatic function resulting from prolonged choledochus disease are not always immediately nor completely relieved by biliary drainage.

It would be unfair to conclude this paper without mention of the deaths in the series of one-hundred cholecystostomies, and we therefore cite the following two cases, the only ones in the series, to show that even cholecystostomy is not without danger, and that we (as others) have had our fatalities.

Case No. 491 was one of chronic cholecystitis with multiple calculi operated upon under ether anesthesia notwithstanding the presence of albumin and casts in the urine. It was believed kidney function would be uninterrupted as preliminary tests revealed no impairment of excretory function nor marked diminution of urea output. On the fourth day after operation the patient began to hiccough, his urine decreased in quantity, and despite the most energetic efforts to re-establish normal function and lighten the labor of the kidneys, we were unable to tide him over, and a lethal exit ensued.

Case No. 1363 illustrates an important question in surgical treatment which should be applied to all gall bladder infections, acute or chronic, i.e., that of drainage, and the length of time it should be continued. It has been my belief for some time, and was when this patient came under observation, that so long as the bile showed bacteria, just so long should drainage be maintained. My custom has been to make bacteriological examinations of the bile at intervals, and to permit the tube to remian *in situ* until the drainage was free of bacteria. In suppurating cases either with or without calculi this is very essential, also in cystic duct obstruction with partially purulent contents of the gall bladder. Failure to observe this feature I am sure led to the ultimate death of this patient about eight weeks after the operation, and four to six weeks after her dismissal from the hospital as cured. She was perfectly well, the drainage tube was removed in ten days, and the sinus permitted to close. Acute excruciating pain in the upper right quadrant followed by a chill and high temperature, precisely similar to the symptoms which led to the original operation, caused her to again call me, though too late to re-establish drainage. Jaundice quickly appeared and as a result of diffuse peritonitis her demise occurred within a very short time. Here clearly the gall bladder infection had not completely subsider, there was a recrudescence of bacterial activity, rapid pus formation with over-distension and perforation or rupture, not through the temporary fistula but into the peritoneal cavity. This was a case of acute empyema; there were no calculi present, the ducts were free except for inflammatory swelling, and beginning twenty-four hours after operation bile in normal amount had been discharged into the drainage receptacle for ten days.

In conclusion it is desired that attention be directed to several other factors which have impressed me as making for safety in operating upon these cases. With reference to common duct calculi, I would emphasize (in addition to sepsis) the danger of hemorrhage, not only post-operative bleeding, but a general primary oozing beginning with the incision, and at times impossible to control. This is seen in cases where there has been prolonged cholemia. It has been our rule to fortify these patients against lessened coagulation of the blood by the administration of calcium lactate for several days preceding the operation. Whether this drug really possesses any merit it is impossible to say from my observation, but to satisfy the belief that it may have some potency it has been administered. In this type of cases horse serum has also been injected, but whether it has been of any value I have not sufficient data upon which to form a definite opinion. The danger of hemorrhage is always present, and if not anticipated may be the source of sore disappointment, much chagrin, and mortification.

In all surgical procedures upon the gall bladder, its contents should be aspirated before the viscus is opened. Adequate precautions must be exercised to prevent escape of the gall bladder contents into the peritoneal cavity, by proper emplacement of sponges to completely isolate the field of operation. After opening the gall bladder it is my practice to mop it perfectly dry with gauze strips, before attempting removal of calculi or proceeding further with the operation.

Another feature to which I wish to call attention is selection of the anesthetic. Notably in common duct obstruction this is of the greatest importance, and the anesthetic of choice should be nitrous-oxide gas and oxygen. During the past eight months practically all of our work has been executed under gas-oxygen anesthesia by the anoci-association method of Crile. This consists in the use of nitrous-oxide gas and oxygen to induce unconsciousness or insensibility, and the local injection of novocaine for the production of anesthesia in the field of operation. The field is further "blocked-off" after operation is completed by urea-quinine-hydrochloride. This method is of tremendous advantage in the class of cases under discussion. The condition of the patient at close of operation will be found just as good as when placed upon the table. I believe the method represents an important addition to our surgical technic, one that personally I have found desirable and satisfactory in every respect.

In many cases of biliary disease, ether is positively contraindicated. As for chloroform, it need only be mentioned to be utterly and completely condemned. Its action on the liver is so well known, that in the presence of cholangitis within all likelihood degenerative changes in the liver cells, of all the anesthetics it should be the least often utilized.

Each case must be thoroughly studied, accurate diagnosis should at least be attempted, and the operation planned bearing in mind the condition of the patient not only with reference to the local disease, but to the kidney, to changes which may have ensued in the vascular system, the heart muscle, and the central nervous system, from cholemic poisoning.

To one who understands the changes to which reference has been made, and the insidiousness and possible extent of the local pathology, not only will careful technic, surgical judgment and skill appeal, but to him also must the anoci-association method of anesthesia be clearly indicated if he wishes to save the greatest percentage of his patients.

CAPILLARY BRONCHITIS.*

By J. G. Moss, Hartranft, Tenn.

There has been more or less confusion about the name of this disease some authorities classify this as separate disease, others as subdivision under broncho-pneumonia, and by others it is considered as a misnomer, in that it is misleading and is not descriptive of all conditions that the name is meant to cover. Hare uses the term "acute disseminated broncho-pneumonia." Others prefer the terms catarrhal pneumonia, lobular pneumonia, bronco-pneumonia, acute suffocative catarrh.

It is sufficient to say that it is a disease that affects by an acute inflammation the small bronchioles and the tissue immediately surrounding them and also the lobules that are connected to them.

There is a good reason for calling this disease catarrhal because it so commonly follows an inflammation of the mucous membrane.

As early as 1823 this form of pulmonary disease was separated from lobar pneumonia by Seger, who found it most frequently in children.

It is found in all parts of the world and is produced by an almost unlimited number of micro-organisms. It is not unusual to find its cause to be the same micrococcus as croupous pneumonia, and it has not been determined why it does not affect the lobes in children as in adults.

It may be produced by the pyogenic organisms as the streptococcus or staphylococcus. Yet it is usual to find the cases that develop primarily to be due to the pneumococcus and secondary cases are most often due to streptococcus. Among others are the Klebs-Loeffler bacillus, tubercle bacillus and the bacillus of Pfieffer.

It is usual and proper to divide this disease into two types, primary and secondary.

The primary is met with in children and adults who have a low vitality especially in infants, and develops insidusously and we think the patient has a "cold" but soon it becomes quite rapid in its progress.

The secondary type follows some previous acute or subacute inflammation of the mucous membrane as occurs with measles, bronchitis (simple), whooping cough, influenza, diphtheria, etc. It may follow the inhalation of irritants as anaesthetics, in fact anything that may gain entrance to the smaller air passages will in some instances set up an inflammation that will produce this disease.

It is to this disease that so many can be attributed following so many diseases that are in themselves comparatively harmless, as whooping cough and measles which have on this account a high mortality.

Pathology and morbid anatomy (Hare). In the earlier stages of this disease we find the disease localized in patches throughout the lung, and on examination we find areas that are soldified portions, collapsed portions, and emphysematous portions, all within a small area.

The inflammatory process usually begins in the smaller bronchi and extends from the tissue immediately adjoining, forming patches of consolidation which are deep red in hue. As the margin of inflammatory zone extends the primary area of inflammation undergoes necrosis, loses its red appearance and becomes gray through granular and fatty degeneration of the exudate. This inflammatory exudate invades not only the peribronchial tissue but also the bronchiole itself thus excluding the air.

This exudate itself is composed, as would be expected, of a serum, red cells, epithelial cells which have been separated from the bronchial and vesicular walls and a large number of leukocytes and in varying numbers the accompanying bacteria.

It is a noteworthy fact that broncho-pneumonia is in the great majority of cases present in both lungs and that it is not usually to be demonstrated in the based posteriorly. The anterior apices show little involvement except in tuberculous cases.

It is hardly possible to outline the symptoms except generally, for the symptoms vary with the primary cause.

For a more accurate study of symptoms it is better to divide this disease into three classes of cases. As before mentioned primary and secondary, and that class of cases with the smallest bronchioles at the onset and is what is known as acute suffocative catarrh.

When a child is attacked with the primary form, there is usually a decided chill, varying in severity followed by a rise in temperature, increase in respiratory rate and some difficulty in breathing, sometimes amounting to almost complete suffocation. And we find that when this is due to the pneumococcus that we have the cerebral symptoms that are the same as in the croupous variety, also there is the rusty sputum, which make it very difficult to decide as to the real condition, it is often mistaken for lobar pneumonia.

The symptoms of the onset of secondary form are quite different, from those just described. The onset is insiduous, a child suffering from some other ailment for days is found to have a rise in temperature, to be seemingly tired and listless, rapid pulse, rapid breathing and dry skin. Pulse in some cases as high as 150 or too fast to count. The cough is fairly constant and painful, respiration is increased in the ratio of the space involved. On auscultation we find fine rales in the smaller bronchioles, exaggerated respiratory murmur. On percussion in the early stages we can elicit no valuable information. After the disease has progressed to the stage where there is formed well-defined patches of pathological structure, we may find impaired resonance over these localities. If the disease is severe the difficulty in breathing becomes most distressing and constant and the expression anxious, and there is marked exhaustion. These symptoms last for a variable number of days but usually, in the favorable cases, begin to subside in four to six days.

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*Read before the Bell County Medical Society.

The third form, or the one commonly described as capillary bronchitis was at one time thought to be a separate entity from bronchopneumonia, but which now is known to be a malignant form of the disease, involving primarily the bronchioles and greatly interfering with respiration. As the name implies, it involves the smaller divisions of the bronchial tubes. It is one of the most distressing acute diseases which may affect small children. The onset is usually very rapid and as a rule is secondary to some of the usual diseases which affect the respiratory organs.

Dyspnoea is the first symptom of any importance, and this lack of oxygen renders the child fretful and restless, but for a short time only, when the patient gradually develops a listless, tired condition and seems scarcely to make sufficient respiratory effort to fill even the small amount of air space that is left free. Naturally, this condition produces an accumulation of carbon dioxide in the blood, hence we have a still further stupefying of patient, almost to the point of unconsciousness, the respiratory rate is high even as many as 40 to 70. The mouth dry, temperature high, as a rule, though we may find even the most severe cases with a fever of only 101, and I may say that the temperature does not always affect the prognosis. Commonly a decided rise before death.

The dyspnoea in some cases becomes very alarming and is often misleading to the physician who may suspect an obstruction. As to the duration of this form, there can be no period of time set in which to expect a recovery. Very much depends upon the predisposing cause and to the condition of the patient at time of onset. In those cases in which we have reason to believe that the disease is primary and in a healthy individual we may expect the disease to last from 4 to 7 days, and it is a consoling fact to remember that it may be arrested in any stage and recovery take place rapidly. While in the secondary types the duration is considerably longer even up to four or five weeks, only, however, after the first ten days in the favorable cases there is a distinct modification of all symptoms with a lowering of the temperature to near normal. If this disease follows whooping cough the duration is, of course, longer than that following measles, where it often subsides with the disappearance of the eruption.

Complications. The complications are not so numerous as might be supposed from the nature of the malady. Those most worthy of mention are tuberculosis and pulmonary abscess, the latter being caused by an infiltration into the peribronchial tissue of the contents of the small tubes with the accompanying pyogenic micro-organisms. If these abscesses form near the pleural cavity we may rarely have an accompanying pleuritis and more rarely still an effusion or empyema.

Diagnosis: This is to be differentiated from ordinary bronchitis by the finding of small patches of impaired resonance on percussion and by an acute exacerbation of all symptoms to the point that we have all indications of a severe illness. Aside from these slight points it is hard to separate, and we may have in capillary a condition of hyperresonance on account of the emphysematous patches, and may completely mask the impaired resonance of consolidation.

From croupous pneumonia it is to be distinguished by the fact that the onset is more gradual and insiduous, by the irregular character of fever and by the irregular distribution of the physical signs. The croupous variety is more often unilateral, while the capillary form is diffused, and the cerebral or meningeal sympatoms are most often indicative of the croupous variety except in those primary cases of capillary bronchitis where the disease is due to the pneumococcus. On the other hand we find that all symptoms may vary in accordance with the predisposing cause.

The prognosis varies as greatly as the symptoms and the underlying cause. The favorableness increases with the age of the patient. The most important requisite is a warm dry and well ventilated room. I do not mean that the air should be dry, on the other hand a certain amount of moisture in the air is of great importance, and this should be supplied in the form of medicated vapors, as by evaporating water in which as been added a few grains of menthol or oil of eucalyptus or tr. benzoin. The recumbent posture is indicated and freedom from noise and handling, and a light nutritious diet and avoid all medication that will tend to irritate the intestinal tract.

A slight counter irritation to chest walls is of value, as turpentine and olive oil in the proportion of one to three. Stimulation used wisely and the heart should be our guide in this line, carbonate of ammonia and alcohol are the stimulants of choice. There is one great disadvantage in the use of the ammonia and that is it produces often a too great flow of bronchial secretion and if care in the selection of the cases in which to administer this agent is not observed we may cause the child to drown in its own secretion. Here we find use for atrophine 1-1000 to 1-3000 according to age. Oxygen is often needed. Fever is to be controlled by tepid water sponge baths, and in no case are we justified in using antipyretics. In the protracted cases tonics are indicated.

COUNTY SOCIETY REPORTS

Adair—The Adair County Medical Society met in Columbia on Thursday, June 5th, 1913, at the office of Dr. Cartwright, with the following members present: S. P. Miller, president; U. L. Taylor, secretary; C. M. Russell, B. J. Bolin, W. J. Flowers, W. F. Cartwright, and a young man, a son of Dr. Miller, a medical student. The minutes of the last meeting were read and approved. The program was then taken up.

S. P. Miller was first on the program who read a paper on "Epidemic Dysentery." The paper was a most excellent one, and was discussed by all the members present. Each member gave his own experience in this terrible malady.

C. M. Russell read a paper on "Pneumonia," which was well prepared, and discussed by all the members present.

B. J. Bolin's paper on "Infantile Paralysis," showed much labor in its preparation. This paper was not discussed as much as the others, because none of the members had had much experience with the disease, and none felt able to discuss it. The paper was a good one, and in view of the fact that the disease is spreading in the State, I am of the opinion that our members will take pains to post themselves on the subject, before another meeting of our society. These are all the papers read, and I asked them to be sent to the State Journal.

The following is the program for the next meeting which will take place on Thursday, July 10, 1913:

W. J. Flowers, "Animal Therapy."

S. A. Taylor, "Articular Rheumatism."

H. B. Simpson, "Senile Gangrene."

W. F. Cartwright, "Cholera Infantum."

U. L. Taylor, "The Length of Human Life."

The society then adjourned.

U. L. TAYLOR, Secretary.

Christian—The April Meeting of the Christian County Medical Society met in the Avalon, Hopkinsville, on the 15th, with President Stites presiding.

The following members were present: F. M. Stites, F. H. Bassett, J. R. Paine, H. W. Watts, C. B. Woosely, G. W. Lacy, J. P. Keith, G. W. Lovin, J. G. Gaither, J. L. Barker, W. A. Lackey, D. H. Erkiletian, J. A. Southall, J. W. Harned, Austin Bell, W. W. Durham, and W. S. Sandbach.

Minutes of the last meeting were read and approved.

Moved by Dr. Southall and passed that the Secretary be instructed to return Dr. Ketchum's membership card to Dr. McCormack with the statement that Dr. Ketchum is not a member of this society.

The Committee on the Dr. Duncan case reported their findings in writing and the Secretary was instructed to submit same to the State Board of Health for further consideration.

J. L. Barker and **H. W. Watts** presented a case of sarcoma of the face which was very interesting

J. W. Stephens was elected to membership.

F. H. Bassett's paper and **J. W. Harned's** quiz on "Appendicitis," were deserving and received great praise and was the means of bringing out one of the greatest discussions of the year

No further business we adjourned to meet the third Tuesday in May.

W. S. SANDBACH, Secretary.

Christian—The Christian County Medical Society met in the Avalon, Hopkinsville, Tuesday, May 20, with President Stites in the chair.

Those present were Drs. Stites, Perkins, Thomas, Stephens, Donnelly, Barker, Gaither, Watts, Barnes, Williams, Croft, Lacy, Rice, Bell, Keith, Lovin, Erkiletian, Durham, Harned, and Sandbach.

The minutes of the last meeting were read and approved.

Moved and passed to dismiss the committee on the Dr. Duncan case and the matter dropped.

H. W. Watts further reported the case of Sarcoma of the face from the last meeting

H. W. Watts reported that he had had fifteen cases of tuberculosis so far this year He appealed to the society for help.

O. L. Barnes reported that he has had eight cases so far this year and stated that the disease was increasing with enormous rapidity.

Moved by Dr. Rice and passed that the Secretary lay the matter before the State Board of Health and ask for aid along this line.

H. P. Sights, of the Western State Hospital, and **W. S. Sandbach** were appointed as a committee to go before the Fiscal Court and ask for an appropriation to defray the expense of a public course in the county.

M. W. Rozzell was elected to membership.

Judge James Breathitt's paper on "Medical Witness" was a treat to the society and received close attention and a vote of thanks from the society. It will appear in the Journal.

J. G. Gaither's quiz on "Fractures," was certainly grand and filled a long felt need of the society. He filled the place with credit to himself and to every one present.

After one of the best meetings of the year we stood adjourned to meet the third Tuesday in June.

W. S. SANDBACH, Secretary.

Christian—The regular meeting of the Christian County Medical Society was held in the Avalon, Hopkinsville, June 17, with the President presiding. Those present were Drs. Stites, Perkins, Gaither, Paine Watts, Sargeant, Donnelly, Rozzell, Barker, Gates, Barnes, Lacy, and Sandbach.

The secretary reported that he and Dr. Sights had been assisted by Dr. Heizer and that their efforts with the Fiscal Court was successful and that they had secured an appropriation of $500 for use of the State Board of Health in a campaign for the eradication of hookworm, pellagra, tuberculosis, etc., in this county as soon as the country schools are open this fall.

J. L. Barker presented a case of "Addison's Disease." It was examined by every one present and discussed by Drs. Gaither, Paine, Sargeant and Stites.

T. W. Perkins reported a case of an abdominal tumor which proved, on removal, to be a dermoid cyst containing a golden-yellow substance, fat, hair, skin, a nipple bone two imperfect teeth and one perfect tooth.

T. W. Perkins read a paper on "Surgical Anesthesia." His paper was short, practical, concise and direct to the point. It was discussed by Drs. Sandbach, Barker, Sargeant, Gaither, Bozzell and Donnelly.

Owing to the hot weather, ball game, and the Chautauqua, Dr. Barker asked for and was granted a postponement of his "Quiz on Fractures," till the next meeting.

The weather man sending up a temperature of 100, the Redpath Chautauqua, just across the street doing its best to drown us, and the Kitty Base Ball League went so far as to grant a free ladies' day, but the interest in the Christian County Medical Society was not to be lessened, and we had one of our usual good meetings.

All feeling profited we adjourned to meet the third Tuesday in July.

W. S. SANDBACH, Secretary.

Daviess—The Daviess County Medical Society met in the public hall at Masonville, June 17, 1913, with the president presiding and thirty-nine members present.

Invocation pronounced by Rev. Norris Lashbrooks. Dr. J. W. Ellis welcomed us to his town in a few choice words, of which he has such perfect command. The President responded in a very interesting talk. Rev. Mr. Timberlake gave a popular address that was very much enjoyed.

Albert A. Schultz read a paper entitled "The Prophylactic Value of Vaccines." The paper was a good one, and was discussed by several of the fellows. Please read it in the Journal.

J. T. Dixon read a paper on "Heredity; Its Influence on Progeny." The paper was commented upon favorably by several who discussed it.

J. A. Kirk read a paper on "Summer Complaint. Some Important Points in its Prevention." This is an interesting subject that always calls for a good discussion.

But I must tell you that Dr. Ellis and his friends can get up the nicest and best dinner and more of it than anybody. They had such pleasant, pretty and accommodating ladies to wait on us that to eat was a real pleasure.

Now Mr. Secretary, if you will excuse me I shall close, for it is really too hot to write.

J. J. RODMAN, Secretary.

McLean—The McLean County Medical Society held its regular meeting in the parlor of the Kincheloe Hotel at Sacramento, May 28, 1913, with several members present. The meeting was called to order by President J. S. Fitzhugh.

C. D. Almon read a paper on "Catarrhal Pneumonia," and a very interesting discussion followed.

H. W. Gates made a talk on "Medical Ethics."

J. A. Fitzhugh's discussion on "Hookworm" and his exhibit of same was fully discussed.

J. W. Clark read a paper on "Some Things I have observed."

The **Rev. W. S. Buckner** made an excellent talk on "The Doctor's Work in General."

W. H. MOORE, Secretary.

Oldham—The meeting held under the auspices of the Oldham County Medical Society at the high school auditorium on Friday evening, April 18th, 1913, was an interesting one, and was enjoyed by an appreciative audience. J. H. Speer, of Brownsboro, President of the society, opened the exercises by asking Rev. W. S. Maxwell to lead in prayer. This was followed by music by the Princess Orchestra. Supt. W. J. Caplinger made a talk on "Health the Dynamo in the Development of the Child." He told of the difference in schools in this and former times.

Hon. Robert T. Crowe began his talk on "The Conservation of Health, the Nation's Greatest Asset," by saying had he chosen the subject he would have said "Health, the Nation's Greatest Asset." Mr. Crowe's talk was interesting, and he brought out many good thoughts.

The crowning address of the evening was the paper, "The Doctor, the Moving Van," by **C. N. Goldsborough.** He said the doctor should be the moving van, as he is the first at the coming of man and the one who usually sees man leave this mundane sphere. He said that the times have changed for the physician; where his slogan used to be "cure" now it has become "prevent," and much good has resulted.

Rev. J. S. Wilson told some interesting stories before going to his subject of "Publicity a Potent Factor in Health Culture," and dwelt upon the importance of publicity in arousing the people to action.

A delightful piano and violin solo was executed by Miss Elizabeth Goldsborough and Mr. George Hume.

A round table discussion followed, led by **R. B. Cassady,** who said all doctors had many problems to meet, especially a health officer, and that people are too careless about their health, and pay much to doctors and much to fakes and for patent medicines.

Supt. J. L. Reeves told of the early history of LaGrange, it having been called the "Cross Roads" until 1838, when the county seat was moved here from Westport and its name changed to LaGrange, in honor of LaFayette's home in France. He gave many other interesting facts in regard to the history of the city.

Mr. J. W. Selph spoke of the problems confronting us. He said modern rapid transportation brought foreign fruits and vegetables to us and with them came new diseases that must be studied and eradicated. He also spoke upon the importance of good sanitary conditions for our rapidly growing town, an important question to be studied and planned for. People must be taught how to care for garbage, etc., and thus prevent disease.

Rev. R. C. McAllister expressed his appreciation of the meeting and said he was sure the ministry were ready to do all in their power for the public good.

Mr. S. E. DeHaven said the Bible says, "What will a man give in exchange for his soul?" and he would add, "What will he give in exchange for his health?" He brought out the importance of early training of the young to preserve their health.

Chairman Dr. Speer asked how many women present would volunteer to form a league for the health improvement of the community. **Mrs. M. B. Morris** arose and said that the King's Daughters would take that up and help in every way possible.

R. B. Cassady commended the King's Daughters very highly, and cited an instance of the influence of women from the life of Napoleon; how his star sank steadily from the time he divorced Josephine, who had always been a great counseler and ready to support him in all his great plans.

After more good music from the orchestra the meeting was dismissed by Rev. J. S. Wilson with a short prayer.

The interesting addresses, the enthusiasm and expressed determination bespeak an era of awakening and advancement towards the ideals that make for health and a more vigorous citizenship.

E. D. BURNETT, Secretary.

Oldham—On Thursday, May 1st, 1913, at noon the Oldham County Medical Society convened at the home of C. N. Goldsborough, La Grange.

Preliminary to the program the little Miss Goldsborough pleased us with a bright recitation. Then the delightful wife treated us to a luxurious fish dinner.

The regular meeting was opened at 2 P. M., with President J. H. Speer in the chair.

The following program was enjoyed.

"Symposium on Typhoid Fever": "Diagnosis," Smiser; "Nursing," Freman; "Diet," Goldsborough; "Medical Treatment," Harbold; Surgical Treatment," Blaydes; "Serum Therapy," Burnett; "Prophylaxis," Pryor; "What the Health Officer Can Do," Cassady; "Report of Typhoid Case," Connell. Discussion led by Drs. Speer, Quesenberry and Weeks.

A round table discussion of "Typhoid Fever," was indulged in.

Everett Morris, Sulphur, Ky., was a guest of the society.

This was the largest and most enthusiastic meeting of the year.

The society adjourned to meet June 5th, 1913, with Dr. J. A. Freeman, Crestwood.

E. D. BURNETT, Secretary.

Warren—The Warren County Medical Society held its July meeting with the Tri-County Medical Society and were delightfully entertained by the Simpson County Society. A large audience was present and Mr. Roy French, Secretary of the Anti-Tuberculosis Commission spoke and enlisted the co-operation of the entire society in his work.

The next meeting will be held in September during the State Meeting.

The Warren County Society will meet August 13th, at the City Hall.

L. H. SOUTH, Secretary.

W. O. Roberts

PRESIDENT KENTUCKY STATE MEDICAL ASSOCIATION, 1913

ENT TO KENTUCKY MEDICAL JOURNAL, AUGUST 15, 1913

BOWLING GREEN NUMBER

KENTUCKY MEDICAL JOURNAL

A. T. McCORMACK, Editor. L. H. SOUTH, Business Editor.

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JOHN R. WATHEN, Louisville
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MENTAL AND NERVOUS DISEASES
GEO. P. SPRAGUE, CURRAN POPE

EYE, EAR, NOSE AND THROAT
ADOLPH O. PFINGST

PRACTICE OF MEDICINE
W. F. BOGGESS

Vol. XI. Bowling Green, Ky., August 15, 1913 No. 16

THE ANNUAL MEETING.

The Annual Meeting of the Kentucky State Medical Association for 1913, will be held in Bowling Green, September 2, 3 and 4. The first session of the House of Delegates will be on September 1st. Every doctor in Warren County is a member of the Warren County Medical Society. They all expect every doctor in Kentucky to be present. Its officers and members are a unit in making such preparations for this meeting as will insure its success. They deserve and should receive the support of not only every county society but of the physicians and profession of the State in their efforts to break all records to make this the greatest medical meeting that has ever been held in Kentucky. It is especially important that every member who attends secure a certificate from his local ticket agent, when he purchases his railroad ticket, so that he can secure his return ticket for one-third fare.

Have no anxiety about your rooms and good meals. Arrangements have been completed so that if every doctor in Kentucky should come and bring his family they would all be cared for with an abundance of room, plenty of bath water and three good meals a day.

The Journal confidently promises every tired, hardworking physician who comes to Bowling Green such a hearty welcome and such a pleasant, profitable meeting that he will return home freshened up and stimulated for another year's work. This guarantee extends also to his wife, who more than in any other profession, shares the trials of the husband. Let's all get together and make the 1913 session the biggest and best yet held.

THE DISCUSSIONS.

The Kentucky State Medical Association is a democratic organization, where every man is his fellow's equal in opportunity anyway. If you are interested in any subject on this program and don't discuss it, it will be your own fault. When you have read the program, pick out the papers in which you are interested and write the Secretary at once. Every paper on the program is, or soon will be, in print. A proof will be sent any member of any one paper. Then, will you, of your own experience and knowledge, deliberately and carefully, get up your discussions. Write it out if you prefer and hand it to the official stenographer just as you want it to appear in the Journal. This plan worked well last year and will again this year, if the members like it. Write to-day for the paper you wish to discuss.

THE PROGRAM.

The program is again published in this issue. It is not quite complete but it promises enough good things to make it certain that no practicing physician can afford to miss it. We desire to call especial attention to the fact that the Committee on Scientific work has arranged for a full program for the third day; in fact, in many respects, the third day is the best of the three. Many of the papers will be illustrated by lantern slides and we will be able to see exactly what is being talked about.

COMMERCIAL EXHIBIT.

We will have the greatest commercial exhibit that has ever been in Kentucky. Only those firms can exhibit that are reputable and have something worth exhibiting. Instrument men, pharmacists and everything else of interest, including long distance telephone, will be on hand to show you the very latest. Save your orders until you can see what you want.

BUSINESS.

This year again we publish in great detail reports of the ASSOCIATION'S officers, giving every item of expense and every step taken by them during the year. Have your resolutions, speeches and reports all ready for the House of Delegates. Ample time is given for any county society to instruct its delegates on any subject, and the delegate from every county society should confer with his fellows as to what should be done at the meeting. Every member is urged to read all the reports. It is your money being spent, your work being done, and if you are not familiar with all of its details, it is your fault not ours.

GET YOUR CERTIFICATE.

When you buy your ticket for Bowling Green, be sure to get a receipt from the local ticket agent on the certificate plan. It will entitle you to one-third fare in returning. If you fail to do this, you will have to pay full fare both ways as more than one-half of those who came to Louisville last year did.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY SCIENTIFIC PROGRAM, BOWLING GREEN SESSION, KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 2, 3 AND 4, 1913.

TUESDAY MORNING, SEPTEMBER 2.

Call to Order by the President, ... D. O. Hancock, M. D.
Address of Welcome, ... Hon. T. W. Thomas
Response to Address of Welcome, ... C. G. Stephenson, M. D.
Installation of the President.
President's Address, . . W. O. Roberts, M. D.
Report of Committee on Arrangements, John H. Blackburn, M. D.

SCIENTIFIC SESSION—10 A. M.

Vaccine Treatment of Pertussis in Children . . By H. A. Davidson, M. D. Louisville
Epidemic Acute Anterior Poliomyelitis, By Philip F. Barbour, M. D. Louisville
Salvarsan . . By M. S. Davis, M. D., Lexington
The Iodides .... By John W. Gilbert, M. D., Lawrenceburg

ORATION IN MEDICINE—SPECIAL ORDER 12 M.

The Conservation of Our Greatest Natural Resource .... By T. A. Frazer, M. D., Marion

TUESDAY AFTERNOON, SEPTEMBER 2.

SCIENTIFIC SESSION—2 P. M.

SYMPOSIUM ON GASTRIC AND DUODENAL ULCER.

Neurosis of the Stomach .... By E. B. McMorries, M. D., Clinton
Diagnosis and Medical Treatment of Gastric and Duodenal Ulcer .... By C. G. Lucas, M. D., Louisville
Relation of Gastric Ulcer to Gastric Cancer . . . By William Carpenter MacCarty, Rochester Minn
Diagnosis and Indications for Operation in Gastric and Duodenal Ulcer, ... By A. D. Willmoth, M. D., Louisville
Discussion to be Opened .... By Wm. H. Wathen, M. D., Louisville
Diagnosis and Treatment of the Knee Lesions in the Adult .... By V. P. Gibney, M. D., New York
Bacterial Diseases and Their Prevention, By Jacob Schultz, M. D., Logmont
Prevention of Tuberculosis, ... By Dunning S. Wilson, M. D., Louisville
The Minister and Public Health, ... By Leonard W. Doolan, D. D., Bowling Green
The End Results of the Hookworm Dispensaries, ... By O. P. Nuckols, M. D., Pineville

TUESDAY EVENING, SEPTEMBER 2.

PUBLIC SESSION—8 P. M.

Annual Oration, ... By Olin West, M. D., Nashville, Tenn

WEDNESDAY MORNING, SEPTEMBER 3.

SCIENTIFIC SESSION.

Diagnosis and Treatment of Ectopic Gestation . . . . . By N. C. Witt, M. D., Franklin
Uterine Hemorrhage and Its Significance, By R. C. McChord, M. D., Lebanon
Diagnosis and Treatment of Secondary Puerperal Pathological Conditions, . . . By J. K. W. Piper, M. D., Russellville
Modern Methods of Infant Feeding, ... By Gavin Fulton, M. D., Louisville
An Essay .... By J. W. Kincaid, M. D. Catlettsburg
Treatment of Zyphoid Rib, ... By Newton Evans, M. D., Murray

SYMPOSIUM ON DISEASES OF THE NASAL ACCESSORY SINUSES.

Etiology and Pathology of Diseases of the Nasal Accessory Sinuses, ... By Ernest Rau, M. D., Bowling Green
Diagnosis of Diseases of the Nasal Sinuses, ... By S. G. Dabney, M. D. Louisville
Treatment of Diseases of the Nasal Accessory Sinuses, Surgically and Otherwise .... By J. A. and W. S. Stucky, M. D., Lexington

Oration in Surgery—Special Order 12 M.
Achievements in Surgery, ...
By W. E. Senour, M. D., Bellevue

WEDNESDAY AFTERNOON, SEPTEMBER 3.

Oration in Urology. The Necessity of Refined Genito-Urinary Diagnosis, Together with the Methods of Attaining Same; Illustrated with Lantern Slides,
By Bransford Lewis, M. D., St. Louis

The X-ray as an Aid in the Diagnosis of Diseases of the Internal Organs, ...
By D. Y. Keith, M. D., Louisville

SYMPOSIUM ON DISEASES OF THE GALL BLADDER.

Symptomatology and Diagnosis of Gall Bladder Disease, ...
By J. B. Lukins, M. D., Louisville

Medical Treatment of Gall Bladder Diseases, ...
By W. F. Boggess, M. D., Louisville

Indication for Operation in Gall Bladder Diseases. . By Louis Frank, M. D., Louisville

Surgery of the Gall Bladder, ...
By J. D. Jackson, M. D., Danville

After Treatment and End Results in Surgery of the Gall Bladder, ...
By F. H. Montgomery, M. D., Danville

THURSDAY MORNING, SEPTEMBER 4.

Scientific Session—9 A. M.

Hypodermic Medication, ...
By C. G. Daugherty, M. D., Paris

Commercialism, Credulity, and a Criticism,—A Study of the Responsibility for Therapeutic Anarchy, ...
By Virgil E. Simpson, M. D., Louisville

Digitalis . . . .
By H. R. Henry, M. D., Winchester

Vaccine Therapy . . . .
By R. Hays Davis, M. D., Louisville

Intubation in Membranous Croup, ...
By Will Mason, Jr., M. D., Murray

SYMPOSIUM ON DIFFICULTIES OF URINATION IN THE MALE.

Stricture of the Urethra, ...
By J. T. Windell, M. D., Louisville

Contracture of the Vesical Neck, ...
By George H. Day, M. D., Louisville

Prostatic Hypertrophy, ...
By Homer G. Hamer, M. D., Indianapolis

Atony of the Bladder, ...
By Carl Lewis Wheeler, M. D., Lexington

Discussion, to be opened . . . .
By Cyrus Graham, M. D., Henderson

THURSDAY AFTERNOON, SEPTEMBER 4.

Scientific Session—2.P. M.

The Diseased Domestic, ...
By Edgar Duff Burnett, M. D., Anchorage

Functional Affections of the Heart, ...
By C. B. Johnson, M. D., Earlington

Traumatic Displacement of the Kidney,
By J. H. Peake, M. D., Louisville

Emergency Surgery, ...
By B. E. Giannini, M. D., Straight Creek

How the Physician Can Help in the Enforcement of the Pure Food and Drug Law . . . . . By Hon. R. M. Allen, Lexington

What the General Practitioner Can Do to Educate the Public in Prevention of Diseases, ...
By A. V. Menefee, M. D., Williamstown

Eclampsia; Causes and Treatment, ...
By Edward Speidel, M. D., Louisville

Discussion to be Opened . . . .
By D. J. Healy, M. D., Lexington

PROGRAM OF HOUSE OF DELEGATES

Called to Order by the President,
D. O. Hancock, M. D.

Report of Committee on Credentials,
C. A. Calvert, M. D., Chairman

Roll Call.
Minutes of 1912 Meeting.
Report of Committee on Scientific Work,
W. O. Roberts, M. D., Chairman

Report of Committee on Arrangements,
John H. Blackburn, M. D., Chairman

Report of the Council.
Secretary's Report.
Treasurer's Report.
Report of Business Manager of Journal.
Report of Business Manager of Jefferson County Issue.
Report of Councilors by Districts.
Reports of Delegates by Counties.

MEETING OF COUNTY SECRETARIES.

President's Address,
F. A. Stine, M. D.

The County Society a Necessity
B. S. Rutherford, M. D.

Duties of the County Secretary,
W. S. Sandbach, M. D.

Value of Publishing Minutes,
J. F. Jones, M. D.

Revision of Constitution and By-Laws,
S. T. Taylor, M. D.

Councilors in County Organization,
Cyrus Graham, M. D.

Report of Committee on County Societies,
S. F. Richardson, M. D., Chairman

Election of Officers of Association of County Secretaries,

REPORT SUB-COMMITTEES OF COMMITTEE ON SCIENTIFIC WORK.

(1) Obstetrics and Gynecology,
W. A. Guthrie, M. D., Chairman

(2) Diseases of Children,
H. E. Tuley, M. D., Chairman

(3) Pharmacology and Therapeutics,
S. L. Beard, M. D., Chairman

(4) Practice of Medicine,
Hugh Prather, M. D., Chairman

(5) Surgery,
J. H. Blackburn, M. D., Chairman

(6) Preventive Medicine,
J. S. Lock, M. D., Chairman

(7) Eye, Ear, Nose and Throat,
H. G. Reynolds, M. D., Chairman

(8) Genito Urinary Diseases,
C. L. WHEELER, M. D., Chairman
Report of Committee on the JOURNAL,
T. A. FRAZER, M. D., Chairman
Value of the JOURNAL,
OSCAR KEEN, M. D.
Editors and Editorials,
CURRAN POPE, M. D.
General Discussion of the JOURNAL,
Report of the Committee on Insurance,
J. W. ELLIS, M. D., Chairman
Report of Committee on Legislation and Public Policy,
C. Z. AUD, M. D., Chairman
What Laws Are Needed for the Future?
J. N. MCCORMACK, M. D.
How Shall We Secure Medical Laws?
T. J. POTEET, M. D.

REPORTS OF COMMITTEES.

Medico-Legal,
JOHN J. MOREN, M. D., Chairman
Medical Education,
W. W. RICHMOND, M. D., Chairman
Expert Testimony,
J. N. MCCORMACK, M. D., Chairman
Preventable Diseases of the Eye,
M. M. MOSS, M. D., Vice Chairman
Principles of Ethics,
WALTER BYRNE, SR., M. D., Chairman
Constitution and By-Laws,
F. P. THOMAS, M. D., Chairman
Public Health and Sanitation,
A. V. MENIFEE, M. D., Chairman
Anti-Tuberculosis Campaign,
EVERETT MORRIS, M. D., Chairman
Collection Bureau Plan,
F. A. STINE, M. D., Chairman
Election of Guests,
B. F. ZIMMERMAN, M. D., Chairman
Division of Fees,
F. H. STEWART, M. D., Chairman
Finance,
C. A. VANCE, M. D., Chairman
Report of Officers,
C. G. STEPHENSON, M. D., Chairman
Resolutions,
JOHN E. KINCHELOE, M. D., Chairman
Contract Practice,
A. O. SISK, M. D., Chairman
State Medicine,
J. E. WELLS, M. D., Chairman

THURSDAY 8 O'CLOCK A. M.

Roll Call (Supplemental Enrollment).
Final Report of Committee on Credentials.
Election of Officers.
Appointment of Permanent Committees.
Unfinished Business.
Final Adjournment of House of Delegates.

FIRST CHRISTIAN CHURCH--ELEVENTH STREET, BOWLING GREEN, KY.
(DR. CATO'S CHURCH)

All Sessions of Kentucky State Medical Association for 1913 Will Be Held Here

OFFICIAL CALL.

THE SIXTY-THIRD ANNUAL SESSION OF THE KENTUCKY STATE MEDICAL ASSOCIATION TO BE HELD AT BOWLING GREEN, SEPTEMBER 1, 2, 3 AND 4, 1913.

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association:

The Sixty-Third Annual Session of the Kentucky State Medical Association will convene in the Auditorium of the First Christian (Dr. Cato's) Church, Bowling Green, Kentucky, on Tuesday. Wednesday and Thursday, September 2, 3. and 4th. 1913.

THE HOUSE OF DELEGATES.

The House of Delegates of the Kentucky State Medical Association will convene in the Sunday School room of the State Street Methodist Church, at 1:30 P. M. on Monday, September 1st, 1913.

FIRST GENERAL SESSION.

The First General Session, which constitutes the opening exercises of the scientific functions of the Association, will be held in the Auditorium of the First Christian (Dr. Cato's) Church, Bowling Green, Kentucky, at 9 A. M., Tuesday, September 2, 1913.

THE COUNCIL.

The Council will convene in the Offices of the Kentucky State Medical Association, Normal Heights, Bowling Green, Kentucky, at 10 A. M., Monday, September 1st, 1913.

THE SECRETARIES OF COUNTY SOCIETIES.

The Association of Secretaries of County Societies will meet in the Auditorium of the First Christian Church, at 8 P. M., Monday, September 1st, 1913.

THE REGISTRATION DEPARTMENT.

The Registration Department will be opened in the Exhibit Hall, in the basement of the First Christian (Dr. Cato's) Church, from 10 A. M., to 7 P. M., on Monday, September 1st, from 8 A. M. to 7 P. M., Tuesday and Wednesday, September 2nd and 3rd, and from 8 A. M. to 11:30 A. M., on Thursday, September 4th.

APPORTIONMENT.

Each chartered component county society will be entitled to the number of delegates opposite its name on the following list. Each society is entitled to one delegate for each twenty-five members, or major fraction thereof, whose dues have been paid to the State Association in accordance with the ByLaws:

Adair	1
Allen	1
Anderson	1
Ballard	1
Barren	1
Bath	1
Bell	1
Boone	1
Bourbon	1
Boyd	1
Boyle	1
Bracken	1
Breathitt	1
Breckinridge	1
Bullitt	1
Caldwell	1
Calloway	1
Campbell-Kenton	4
Carlisle	1
Carroll	1
Carter	1
Casey	1
Christian	2
Clay	1
Clinton	1
Crittenden	1
Cumberland	1
Daviess	3
Elliott	1
Estill	1
Fayette	3
Fleming	1
Franklin	1
Fulton	1
Gallatin	1
Garrard	1
Grant	1
Graves	1
Grayson	1
Green	1
Greenup	1
Hancock	1
Hardin	1
Harlan	1
Harrison	1
Hart	1
Henderson	2
Henry	1
Hickman	1
Jefferson	9
Jessamine	1
Johnson	1
Knott	1
Knox	1
Larue	1
Laurel	1
Lawrence	1
Lee	1
Letcher	1
Lewis	1
Lincoln	1
Livingston	1
Lyon	1
McCracken	2
McLean	1
Madison	1
Magoffin	1
Marion	1
Marshall	1
Mason	1
Meade	1
Mercer	1
Metcalfe	1
Monroe	1
Montgomery	1
Morgan	1
Muhlenburg	1
Nelson	1
Nicholas	1
Ohio	1
Oldham	1
Owen	1
Owsley	1
Pendleton	1
Perry	1
Pike	1
Powell	1
Pulaski	1
Robertson	1
Rockcastle	1
Rowan	1
Russell	1
Scott	1
Shelby	1
Simpson	1
Taylor	1
Todd	1
Trigg	1
Trimble	1
Union	1
Warren	2
Washington	1
Wayne	1
Webster	1
Wolfe	1
Woodford	1

COMMITTEE ON ARRANGEMENTS OF THE WARREN COUNTY MEDICAL SOCIETY.

ARRANGEMENTS—John H. Blackburn, M. D., General Chairman.

PLACE OF MEETING—W. P. Drake, M. D., Chairman: H. P. Cartwright, M. D., Joe W. Ford, D. D. S.

EXHIBITS—Ernest Rau, M. D., and the Council

REGISTRATION—B. S. Rutherford. M. D., Chairman: Ernest Rau, M. D., E. N. Hall, M. D., W. C. Simmons, M. D., E. J. Keen, M. D.

HOTELS—M. M. Moss, M. D., Chairman; L. H. South, M. D.. T. O. Helm, M. D., G. E. Townsend, M. D., John H. Blackburn, M. D.

AUTOMOBILES—F. D. Reardon, M. D., Chairman; B. S. Rutherford, M. D., W. A. Briggs, M. D., F. D Cartwright, M. D., T. W. Stone, M. D., S. J. Martin, M. D.

FINANCE—Joan H. Blackburn, M. D., Chairman; G. E. Townsend, M. D., J. H. Souther, M. D.. J. L. Neel, M. D.. A. T. McCormack, M. D., T. O. Helm, M. D., J. O. Carson, M. D.

RECEPTION—W. L. Heizer, M. D.. Chairman: W. A. Briggs, M. D., S. W. Coombs, M. D., J. F. Rodgers, M. D., L. H. Sonth, M. D., G. H. Freeman, M. D., D. B. Stone, M. D., E. H. Mark, M. D.. W. P. Drake, M. D., M. M. Moss, M. D., Frances Gibson-Ramsey, M. D.

ENTERTAINMENT—E. N. Hall, M. D.. Chairman; L. H. South, M. D., G. E. Townsend, M. D., C. E. Francis, M. D., W. R. Francis, M. D., T. W. Stone, M. D., G. E. Hnddle, M. D., W. F. Arnold, M. D., W. C. Strother, M. D., F. D. Cartwright, M. D., Finis London, M. D., Carlisle Moss, M. D., J. W. Lewis, M. D., J. M. Adair, M. D., A. T. Drake, M. D., B. S. Rutherford, M. D., G. W. White, M. D., J. W. Grubbs, M. D., V. E. Tygret, M. D., J. D. Grider, M. D., W. A. Francis, M. D., L. M. Weaver, M. D.

ENTERTAINMENT FOR LADIES—Frances Gibson-Ramsey, M. D., Chairman: and the wives of the physicians of the city and county.

PERMANENT COMMITTEES.

Scientifio Work—W. O. Roberts, M. D., Chairman; M. M. Moss, M. D., A. T. McCormack, Secretary.

SUB-COMMITTEES OF COMMITTEE ON SCIENTIFIC WORK.

(1) Obstetrics and Gynecology—3 hqurs—W. A. Guthrie, M. D., Chairman; W. F. Nichols, M. D., Secretary.

(2) Diseases of Children—3 hours—H. E. Tuley, M. D., Chairman; A. C. L. Perceful, M. D., Secretary.

(3) Pharmacology and Therapeutics—2 hours—S. L. Beard, M. D., Chairman; L. C. Redmon, M. D., Secretary.

(4) Practice of Medicine—3 hours—Hugh Prather, M. D., Chairman; B. B. Keys, M. D., Secretary.

(5) Surgery—3 hours—J. H. Blackburn, M. D., Chairman; S. J. Martin, M. D., Secretary.

(6) Preventive Medicine and Public Health—3 hours—J. S. Lock, M. D., Chairman; O. P. Nuckols, M. D., Secretary.

(7) Eye, Ear, Nose and Throat—2 hours—H. G. Reynolds, M. D., Chairman; M. C. Dunn, M. D., Secretary.

(8) Genito-Urinary Diseases—2 hours—C. L. Wheeler,

(9) Business—7 hours—W. O. Roberts, M. D. Chairman; M. D., Chairman; F. A. Stine, M. D., Secretary. A. T. McCormack, M. D., Secretary.

Medico-Legal—J. J. Moren, M. D., Chairman; W. B. McClure, M. D., A. T. McCormack, M. D., Secretary.

Legislation and Public Policy—C. Z. Aud, M. D., Walter Byrne, M. D., J. W. Cooper, M. D.

Medical Education—W. W. Richmond, M. D., D. M. Griffith, M. D., Arch Dixon, M. D.

Expert Testimony—J. N. McCormack, M. D., Curran Pope, M. D., H. D. Rodman, M. D.

Preventable Diseases of the Eye—M. M. Moss, M. D., J. A. Stucky, M. D., M. C. Dunn, M. D.

COUNCILOR DISTRICTS.

First District.

Ballard
Caldwell
Calloway
Carlisle
Fulton
Graves
Hickman
Livingston
Lyon
Marshall
McCracken
Trigg

Second District.

Breckinridge
Crittenden
Daviess
Hancock
Henderson
Hopkins
McLean
Muhlenburg
Ohio
Union
Webster

Third District.

Allen
Barren
Butler
Christian
Cumberland
Logan
Metcalfe
Marion
Warren-Edmonson
Simpson
Todd

Fourth District.

Bullitt
Grayson
Hardin
Hart
Henry
Larue
Meade
Nelson
Oldham
Shelby

Fifth District.

Anderson
Boone
Carroll
Franklin
Gallatin
Jefferson
Owen
Spencer

Sixth District.

Adair
Boyle
Green
Marion
Mercer
Taylor
Washington

Seventh District.

Casey
Clinton
Garrard
Lincoln
Pulaski
Rockcastle
Russell
Wayne

Eighth District.

Bourbon
Bracken
Campb'll-Kent'n
Fleming
Grant
Harrison
Jessamine
Mason
Nicholas
Pendleton
Robertson
Scott
Woodford

Ninth District.

Boyd
Carter
Elliott
Floyd
Johnson
Lawrence
Lewis
Magoffin
Martin
Pike

Tenth District.

Bath
Breathitt
Clark
Estill
Fayette
Knott
Lee
Letcher
Madison
Menifee
Montgomery
Morgan
Owsley
Perry
Powell
Rowan
Wolfe

Eleventh District.

Bell
Clay
Harlan
Jackson
Knox
Laurel
Leslie
Whitley

OFFICERS FOR THE YEAR 1913.

President	D. O. Hancock, Henderson
President-Elect	W. O. Roberts, Louisville
Vice-President	J. H. Hendren, Cary
Vice-President	T. C. Holloway, Lexington
Vice-President	J. Paul Keith, Hopkinsville
Treasurer	W. B. McClure, Lexington
Secretary-Editor	A. T. McCormack, Bowling Green

Councilors.

E. Rau, Bowling Green, Chairman
W. W. Richmond, Clinton
Cyrus Graham, Henderson
C. Z. Aud, Cecilian
B. F. Zimmerman, Louisville
R. C. McChord, Lebanon
L. F. Hammonds, Dunnville
C. G. Daugherty, Paris
J. W. Kincaid, Catlettsburg
I. A. Shirley, Winchester
J. S. Lock, Barboursville

Delegates to the American Medical Association.

Kentucky—4.

Curran Pope	Louisville
A. T. McCormack	Bowling Green
J. W. Ellis	Masonville
W. W. Richmond	Clinton

Members of State Board of Health.

Dr. John G. South, President	Louisville
Dr. Geo. T. Fuller,	Mayfield
Dr. C. A. Fish,	Frankfort
Dr. W. W. Richmond,	Clinton
Dr. I. A. Shirley	Winchester
Dr. Chas. Z. Aud,	Cecilian
Dr. O. C. Robertson	Owensboro
Dr. J. N. McCormack, Secretary	Bowling Green
Dr. E. H. Mark, State Sanitary Engineer	Bowling Green
Dr. W. L. Heizer, State Registrar of Vital Statistics	Bowling Green
Prof. Fred D. Mutchler, Assistant Chemist and Bacteriologist	Bowling Green
Dr. L. H. South, State Bacteriologist	Bowling Green
Dr. A. T. McCormack, Assistant Secretary and Chief Sanitary Inspector	Bowling Green

CONSTITUTION AND BY-LAWS OF THE KENTUCKY STATE MEDICAL ASSOCIATION ADOPTED AT PADUCAH IN 1902 AS AMENDED.

CONSTITUTION.

Article I.—Name of the Association.

The name and title of this organization shall be the Kentucky State Medical Association.

Article II.—Purposes of the Association.

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar Associations in other States to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES.

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2. MEMBERS. The members of this Association shall be the members of the component county medical societies.

Sec. 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4. GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privilege of participating in all of the scientific work of that Session.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1), Delegates elected by the component county societies, and (2) *ex officio*, the officers of the Association as defined in Article VIII, Section 1, of this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interest of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS.

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS.

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The Officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session and who has not been a member of the Association for the past two years.

ARTICLE IX.—FUNDS AND EXPENSES.

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Association and profession.

ARTICLE X.—REFERENDUM.

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XI.—THE SEAL.

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

ARTICLE XII.—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS.

CHAPTER I.—MEMBERSHIP.

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Association.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Association.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right of membership has been verified by reference to the roster of the society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE ASSOCIATION.

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the State fixed at the preceding annual session.

Sec. 2. Special sessions of either the Association or House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III.—GENERAL MEETING.

Section 1. The General Meetings shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests, to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or upon his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the Session as far as may be shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and Orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

CHAPTER IV.—HOUSE OF DELEGATES.

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations,, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 25 members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate. In case the regularly elected delegate is unable to attend the annual meeting of the Association, the President of the county society shall have the power to appoint an alternate, who shall have the rights and privileges of a delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association which has not first been heard in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interests of the Association and profession will be promoted thereby, organize in each district a medical society, to meet midway between the Annual Sessions of the Association, and members of the chartered county societies, and none others, shall be members in such district societies. When so organized from the Presidents of such district societies shall be chosen the Vice Presidents of this Association, and the Presidents of the county societies of the district shall be the Vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the Transactions or JOURNAL.

CHAPTER V.—ELECTION OF OFFICERS.

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees, the nominee receiving the least number of votes on the first ballot shall be dropped and the ballotting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited votes for or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

CHAPTER VI.—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the Council shall elect one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Association, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Association and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as Secretary of the Committee on Scientific Work. He shall be editor of the KENTUCKY MEDICAL JOURNAL. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII.—COUNCIL.

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman and Secretary and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the accounts of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association or under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the next annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the Association, and all money paid to the Secretary as dues shall be received as subscriptions to the JOURNAL. All money received by the JOURNAL, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the Councilor for the District in which he resides may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual session shall be within the control and direction of the Council.

CHAPTER VIII.—COMMITTEES.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Medical Education.

A Medico-Legal Committee.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman, and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, subject to the provisions or the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee on Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and the Treasurer shall be the other two members *ex officio*. This Committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and, if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

Chapter IX.—Assessments and Expenditures.

Section 1. The assessment of three dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of nonaffiliated physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessment, or make the reports required, on or before the first day of April in each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money, shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes.

Chapter X.—Rules of Conduct.

The principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

Chapter XI.—Rules of Order.

The deliberations of this Association shall be governed by parliamentary usage, as contained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

Chapter XII.—County Societies.

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be had to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which, upon a majority, may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Sec. 12. At the time for the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the annual session.

Sec. 13. The Secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county society shall report to the Kentucky Medical Journal full minutes of each meeting and forward to it all scientific papers and discussions which the Society shall consider worthy of publication.

Chapter XIII.—Amendments.

These By-Laws may be amended by any annual session by a two-thirds vote of all the delegates present at that session, after the amendment has laid upon the table for one day.

REPORT OF THE COUNCIL.

To the House of Delegates:

Chapter 7 of your By-Laws provide that the Council shall make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the accounts of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association or under its control, with such suggestions as it may deem necessary.

Section 5, gives the Council authority to provide for the publication and distribution of all proceedings including the Kentucky Medical Journal. Section 4 of Chapter 6 also provides that the Secretary shall employ such assistance as may be ordered by the Council or the House of Delegates. In accordance with these provisions, we have the honor of submitting the following report of our activities for the current year:

It has ceased to be a matter of regret with us that the paid membership on September 1st does not show an annual increase. Our only cause for regret now is that some of our county societies are not actively grasping the great opportunities for work before them and that there are many men carried on our roll whose membership is nominal and who are not active and whose services are needed in the great work of medical organization in our county societies.

We note with the greatest pride and pleasure that 1401 of our 1970 paid members accepted the invitation of the Council to pay $3.00 dues for the current year. The fact that such an overwhelming proportion of our members voluntarily accepted the increased dues in order to provide the Asociation with the necessary funds to conduct its activities is the most satisfactory indorsement that has yet come to any state medical society. Feeling as we always have that the Kentucky State Medical Association is having, in a very large degree, the real devotion and loyalty of its membership, we can now face any sort of opposition with the knowledge that we have a phalanx that cannot be distracted nor divided.

The usual increase in the income of the Journal is shown for the year. Its total income has been $6915.20 as against an expense during the same time of $6454.06, making the net profit of the Journal for the year $461.14. The cost of the Journal for the previous year was $7014.00 and its income $5910.56. This year's operation shows a decrease in the Journal's expense of $560.94 and an increase in its income of $1004.64. We feel a considerable pride in the fact that since October, 1906, during which time the JOURNAL has been under its present management, 369,960 copies of the KENTUCKY MEDICAL JOURNAL have been actually mailed to the physicians of the State at a net profit of $157.19, including each and every cost of publication and not including as a part of the revenue of the JOURNAL any subscription from the members of the Association.

As we stated last year, the management of the JOURNAL has accepted the agency for quite a number of sanitary and other public health equipments, which have heretofore been purchased through supply houses in the East and which we are now able to supply to Boards of Health and individual physicians at or very near wholesale costs. We note with pleasure that the expense of this activity of the JOURNAL for the year has been $1106.10, while its income from the same source has been $1316.68. We trust this activity will receive the approval of the House of Delegates.

At the last session, an appropriation of not to exceed $1000.00 was made to assist the State Board of Health in the enforcement of a Medical Practice Act in accordance with the following resolution: "Resolved that the Council be authorized to cooperate with the State Board of Health in the enforcement of the Medical Practice Act and to employ attorneys and detectives in such cases, and to incur such other expense as may be found necessary not to exceed $1000.00" In accordance with this resolution, the Council authorized its Chairman and Dr. McCormack, of the State Board of Health, to employ Hon. Aaron Kohn and such detectives and others as might be necessary for the prosecution of the Advanced Medical Institute, a quack advertising concern in Louisville. Flaming advertisements in the newspapers announced that it had expert diagnosticians and scientific apparatus too costly and accurate for the medical profession to possess or appreciate and in a few days effected cures so numerous and miraculous as to attract a large clientele. The State Board of Health put the machinery of the law in operation and its special agents, male and female, reported in a few days that Witman, the head of the concern and its expert diagnostician, was not a physician, and that the only physician in it was one who had failed as a practitioner and was employed to legalize its practice at a salary of $15 per week. The scientific apparatus were found fakes worthy of the operators. It consisted of a cheap fluoroscope by which Witman, looking through the body into blind box, was able to see handfuls of gall stones and stomach, lung and kidney lesions, and to relieve the unfortunates of any surplus cash they had or could obtain.

Twenty indictments were secured at the next sitting of the grand jury, most of them not for violations of the Medical Law it should be observed, and other warrants were taken out from day to day as evidence could be secured. One woman, it is alleged, furnished $3,000 to finance the concern and its defense, able attorneys were employed by it, a virulent crusade was begun in the press against the State Board of Health, the State Medical Association, and the American Medical Association, and women were employed in systematic efforts to blackmail and intimidate leading members of the profession, especially those connected with the prosecution or summoned as witnesses. All of this was of no avail. The Attorney of the Board, Hon. Aaron Kohn, to whom chief credit is due for the freedom of Kentucky from open quackery for the last twenty years, had prepared the cases with such care and ability that the women in the concern who had been used in the efforts to discredit members of the profession, turned State's evidence and, as soon as the cases could be docketed and reached, the court proceedings which follow, with other accompanying documents, became a part of the criminal records of the State:

WHOLESALE PLEAS OF GUILT.

State of Kentucky, County of Jefferson; Jefferson Circuit Court, Criminal Division.—Nos. 34782, 34784, 34785, 34786, 34787, 34788, 34789, 34790. Delish-Etts Mfg. Co., Geo. W. Foreman, X. W. Witman, W. M. Foreman, Frances Holst. Failing to File Certificate.

No. 34791. Advanced Medical Institute, Geo. W. Foreman, X. Y. Witman, W. M. Foreman, Frances Holst. Unlawfully Practicing Medicine. Nos. 34792, 34793, 34794, 347956, 34796, 34797, 34798, 34799, 34800. Advanced Medical Institute, Geo. W. Foreman, X. Y. Witman, W. M. Foreman, Frances Holst. Failure to File Certificate. No. 34801. Advanced Medical Institute, Geo. W. Foreman, X. Y. Witman, W. M. Foreman, Frances Holst, Unlawfully Practicing Medicine.

At a Court held on the 22nd day of November, 1912.

The defendants appeared in Court in pursuance to their recognizances and by counsel, and tender the following agreed order, which having been signed by defendants and the Commonwealth and the Commonwealth consenting thereto, it is ordered by the Court that the agreed order be filed and entered as a part of the record herein, to-wit:

In the above entitled cases, nine of which charge that the defendants were engaged in business under an assumed name, to-wit, that of the Advanced Medical Science Institute, without having filed a certificate giving the names, places or residence of all persons actually interested and conducting business, and the nature of the business, as required by law; and nine of the indictments charge them with having been guilty of the same offense, with having conducted business contrary to law, in the name of the Delish-Etts Manufacturing Company; and two indictments charging the defendants with having practiced medicine illegally; now comes the defendant, X. W. Witman, and pleads guilty to each of said charges, and agrees that a fine of twenty-five dollars and costs in each of the first eighteen cases be entered against him and a fine of fifty dollars and costs in each of the two last named cases; and the said X. W. Witman, agrees that the said business has been illegally conducted by them and that he will immediately cease to do business in the State of Kentucky and close their offices at 708 Realty Building, and never again either by himself or another, or in any name, corporate, or otherwise, engage in the business of practicing medicine or treating sick people by any means whatsoever in the State of Kentucky, unless he should have been legally licensed so to do by the laws of the State of Kentucky, before beginning any such practice by any method whatsoever; and the said Frances Holst, comes into Court and files a written statement as to the true facts as to her connection with the matters contained in the said indictment and will immediately cease having any connection with said business, and will in the future have no connection with said business, and as to W. M. Foreman and said Frances Holst the cases may be dismissed.

The defendant, George Foreman, pleads guilty to one charge of doing business under the assumed name of Advance Medical Science Institute, and agrees that a fine of fifty dollars may be entered in said one case.

JUDGMENT OF THE COURT.

It is therefore considered and adjudged by the Court that the defendant X. Y. Witman is guilty as charged in the above 20 indictments, and defendant George W. Foreman is guilty as charged in one of the above cases, and it is ordered that the Commonwealth recover of defendant, Witman, the sum of $25.00 in each of the first eighteen above cases, and $50.00 in each of the last two cases, and its cost expended; and $50.00 from Geo. W. Foreman in one of the above cases and its cost expended, and comes X. W. Witman and pays to the clerk of this court the sum of $600.00 in settlement of said fines, and the further sum of $67.50 in payment of the costs herein, and it is ordered that they be dismissed from further custody.

It is adjudged by the Court that defendants Holst and W. M. Foreman are not guilty of the offenses charged in the above indictments and it is ordered that they be dismissed from further custody.

(A Copy) Attest:

LOUIS SUMMERS, Clerk,
By GEO. P. BUTLER, D. C.

The concern closed its offices within an hour and notices were at once issued for Dr. Geo. W. Foreman to appear before the State Board of Health at its next meeting to show cause why his certificate to practice medicine should not be revoked "for gross unprofessional and dishonorable conduct of a character likely to deceive and defraud the public."

Dr. Foreman brought an injunction proceeding against the Board, which was decided in favor of the Board in an extended opinion and which is now pending on appeal before the Court of Appeals.

The fact that the KENTUCKY MEDICAL JOURNAL has been conducted for seven consecutive years without expense to the Association, is a cause for congratulation, no more on account of the educational and organization value of the JOURNAL to our membership than that it has demonstrated that a medical journal may be conducted honestly and, at the same time, profitably. As we have said repeatedly before this remarkable showing cannot be continued without an even more active support of our advertisers in the future by the profession of the State. We are so confident, from careful investigation, that there is not a single firm among our advertisers which is not worthy of your patronage; that the Council stands ready to make good any money lost, occasioned by a mis-statement in any of our advertisements. We believe that this offer has never before been made by any medical or other publication. We accept no dishonest advertisements for our JOURNAL; and, after five years' experience, we feel confident that our methods have been perfected to the point where we will not be deceived, and we are willing to relieve our members of all risk in dealing with our advertisers for their advertised products.

If all of our membership will adopt a plan already in force in many societies of not only preferring those manufacturers and sanitariums which make their announcements through our own JOURNAL, but of calling the attention of all those who seek the patronage of the profession to that fact, we will have no difficulty in continuing to furnish our members with a satisfactory organ.

If we could receive help from two or three active members in each county, we could in a few years have sufficient reserve funds to undertake the protection of aged physicians, the establishment of an Old Doctors' Home, and such other things as have been the dreams of our profession.

The report of our Business Manager shows that 31 per cent. of the total membership of the Association have contributed to the columns of the JOURNAL through original or special articles, scientific editorials, the proceedings of our respective county societies or in some way. This condition is without parallel in any other state and shows that our JOURNAL is really representative of our two thousand members who not only own, but actually edit it. Since 1906, no article or other communication on any subject from one of our own members has been refused publication. During the coming year, our expense will naturally and necessarily increase if we continue this policy. We will appreciate such explicit directions as to the future conduct of the JOURNAL as your honorable body shall see fit to give.

At the meeting of the Council in Louisville during the 1912 session, the contract f r printing the JOURNAL was let to the Times-Journal Publishing Company, Incorporated, Bowling Green, for two years, on the following contract:

This contract made and entered into by the Kentucky State Medical Association, incorporated, party of the first part, and the Times-Journal Publishing Company, incorporated, party of the second part, witnesseth:

That the party of the second part hereby agrees to publish for party of the first part the KENTUCKY MEDICAL JOURNAL on the paper of the quality furnished, the body of the JOURNAL to be printed in 10 point DeVinne type, the discussions and similar matter to be in 8 point DeVinne type, not more than one-third of each issue to be advertising matter, set by hand, each Jefferson County issue to consist of 48 pages, 2,500 copies in consideration of the sum of $160.00 per month; and each regular issue to consist of sixty-four pages, 2,500 copies, in consideration of the sum of $200.00 per month, or eighty pages, 2,500 copies, in consideration of the sum of $250.00, or of ninety-six pages, 2,500 copies, in consideration of $300.00 per month. It is further agreed that the party of the second part agrees that the JOURNAL shall be mailed to the members before midnight on the 26th day of the month preceding issue, subject to a penalty of ten dollars ($10) for each twenty-four hours, or fraction thereof, delay.

It is further agreed that one-third of the copy of the Jefferson County number shall be in the hands of the printer on the 26th day of the month preceding issue, one-third on the 1st day of the month of issue, and the remaining one-third on the 5th day of the month of issue; the advertising forms close on the 1st day of the month of issue.

It is further agreed that one-third of the copy for the regular number shall be in the hands of the printer on the 5th day of the month before issue, one-third on the 10th and one-third on the 16th day of the month before issue.

It is further agreed that the copy shall be correct, and the party of the second part agrees to pay twenty-five (25) cents for each typographical error not contained in the copy, galley proofs and page proofs are to be submitted to the editor, and it is agreed that it shall be read and returned within twenty-four hours after its submission.

It is further agreed that he second party shall furnish envelopes, the return card to be printed on same at the rate of $1.00 per thousand, which shall be addressed by the first party, and the JOURNAL shall be put in envelopes and mailed by the second party.

It is further agreed that this contract is to be continued for two years, beginning this, December 1st, 1912.

Witness our hands and seals this day and date above named.

KENTUCKY STATE MEDICAL ASSOCIATION (Inc.)
By E. RAU, Chairman Council.

TIMES-JOURNAL PUBLISHING COMPANY, (Inc.)
By W. J. DENHARDT, Manager.

Again this year the copy for the Jefferson County Number has been sent in late almost every month. We suggest that a penalty be added for each day's delay. In a negative way, these delays have cost the Association between $400.00 and $500.00 during the past year and this leak should be avoided .

The contract with the Jefferson County Medical Society is as follows:

This contract made and entered into this first day of April, 1909, between the Jefferson County Medical Society, party of the first part, and the KENTUCKY STATE MEDICAL ASSOCIATION, incorporated, party of the second part, Witnesseth:

That in consideration of the securing advertising contracts in Jefferson County, Kentucky, by the party of the first part for the JOURNAL published by the party of the second part, which shall provide for it a net income from said advertisements of $2,400 per annum, the party of the second part agrees to publish on or about the fifteenth day of each month an edition of the said JOURNAL which shall be known as the JEFFERSON COUNTY

NUMBER, each issue to consist of forty-eight pages of reading matter and advertisements to be published and distributed under the following conditions, to-wit:

1. The Jefferson County Number of the KENTUCKY MEDICAL JOURNAL shall be published of the same style, size of pages, and shall be mailed to the same mailing list and shall be a part of the regular issue of the KENTUCKY MEDICAL JOURNAL.

2. Its editor and business manager shall be the same as for the KENTUCKY MEDICAL JOURNAL, but assistant editors and associate editors shall be nominated for it by the Jefferson County Medical Society from its membership, to the Council of the State Association.

3. The editorials for it shall be written by its own associate editors and the scientific editorials, by its own assistant editors, provided that editorial matter in regard to the public policy of the State Association shall be subject to the approval of the Council, as provided by the constitution.

4. Essays and discussions will be published in the order in which they are received from the secretary of the Jefferson County Medical Society.

5. The assistant and asociate editors herein provided shall be assigned by the secretary of the Jefferson County Society to editorial work for the various issues at least three months in advance, and in case any such editor shall fail to send in his copy to the editor of the JOURNAL two successive times, the editor shall certify the fact to the Jefferson County Society, and another member shall be nominated to fill the vacancy thereby occasioned.

6. Advertisements of medical preparations shall be limited to U. S. P. and N. F. preparations, and to those approved by the Council on Pharmacy and Chemistry of the American Medical Association; of food preparations, to those which comply with the United States and Kentucky Pure Food and Drug Laws; and of sanitariums and business houses to those approved by the Executive Committee of the Jefferson County Medical Society; all advertising being subject to the approval of the Council.

9. The business manager of the JOURNAL shall try as fas as possible to secure advertisements for the Jefferson County Number, and the net income from such advertisements shall be credited in the consideration herein.

10. The Jefferson County Society may secure advertisements outside of Jefferson County, with the consent of the editor, the net proceeds to be credited two-thirds to the Jefferson County issue and one-third to the ordinary issue. The consent of the editor is required only to prevent competition between the two issues, and he shall in every way assist the Jefferson County Society in securing advertisements when they have a reasonable prospect of securing them.

11. Subscriptions to the KENTUCKY MEDICAL JOURNAL shall be at the rate of $2.00 a year, and two-fifths of the income from subscriptions secured by the Jefferson County Society shall be credited on the consideration herein, provided that such subscribers are not eligible to membership in the Kentucky State Medical Association, in which latter case, the whole subscription shall go to the general fund of the Association.

12. In case the total net income of the Jefferson County Number shall exceed $2,400 per annum, sixty-six and two-thirds per cent. of the excess shall be paid to the treasurer of the Jefferson County Society, and thirty-three and one-third per cent. to the Kentucky State Medical Association.

13. The consideration herein is based on a forty-eight page issue, with a circulation not to exceed 3,000. For each additional 500 copies required the consideration will be increased $25, and for each additional sixteen pages of any issue of 3,000 or less, it will be increased $50.

14. While it is agreed that the Jefferson County Number is to be representative of and under control of the Jefferson County Society in so far as it does not conflict with the Constitution of the State Association, it is understood that the editor and the secretary of the Jefferson County Society may arrange for such interchange of articles between the two issues as will promote harmonious relations and united action between the parties hereto at all times.

The total income from advertising for the Jefferson County Number of the JOURNAL is $1729.25. The net income is $1614.55. It will be noted that the contract with the Jefferson County Society provides that the net income shall be $2400.00 per annum. The Council would like to have instructions from the House of Delegates as to this matter.

We have had the report of the Secretary and Treasurer audited by the Potter-Matlock Trust Company of Bowling Green, and submit their report herewith.

It will be noted again this year, as for the past six years, that each item of expense and income are set forth so plainly, that not only every county society and its Delegates, but every member of the Association, may know the details of our business affairs, which are of interest and importance to every one of us. This Council and your officers will continue to work with the most careful attention to its every detail. It is to be remembered at all times that we are entirely under the control and direction of the members of the county societies through their duly elected delegates. If anything is being done wrong, if there is any way to improve it, if newer methods or better management will more nearly accomplish the purpose of this Association, we beg that it be submitted to the House of Delegates for its action at this session so that in the future conduct of the affairs of this Association we may best promote the purpose set forth in its Constitution and charter "to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of diseases, and in prolonging and adding comfort to life." Respectfully submitted,

Ernest Rau, Chairman.

Action of Roentgen Rays on Uterine Cancer.—Bumm reports a case which shows that the Roentgen rays can be applied through the vagina to an inoperable uterine cancer, and, without injuring the vaginal mucosa, induce such sclerosis in the surrounding connective tissue and muscles that the cancer was unable to spread farther. After the sloughing off of masses of cancerous tissue, a clean cavity was left, and there was no more suppuration or hemorrhage. At this stage the growth was operable and it was accordingly successfully removed. Although the clinical course of the case was so striking, yet the microscope revealed that the cancer cells proper had not been killed by the exposures, no specific influence on them being apparent. Their growth had been checked merely by the barrier thrown up around them by the hardening of the encircling soft parts. The exposures were given every day or so for two months, a total of 800 units or 1,600 Kienbock x units.—Zentralblatt fur Churgie.

AUDITOR'S REPORT.

Bowling Green, Ky., August 9, 1913.

To the Council, Kentucky State Medical Association:—

Gentlemen: We have the honor to submit herewith our report of the audit of the books and accounts of your Secretary, Dr. A. T. McCormack, and your Treasurer, Dr. W. B. McClure, beginning September 1, 1912, and ending September 1, 1913, viz:

ASSETS.

Cash balance in Second National Bank, Lexington, Kentucky, to the credit of W. B. McClure, Treasurer of Kentucky State Medical Association, as per pass book submitted		$6944 92
Less outstanding vouchers, viz:		
Voucher No. 365, Myers Manufacturing Company	$ 68 40	
Voucher No. 366, Myers Manufacturing Company	$ 68 40	
Voucher No. 367, Myers Manufacturing Company	136 80	
Voucher No. 374, Dr. A. T. McCormack	201 19	
Voucher No. 375, Dr. L. H. South	25 00	
Voucher No. 376, Dr. V. E. Simpson	25 00	
Voucher No. 377, Mary Francis Shea	25 00	
Voucher No. 378, Clyde W. Howell	60 00	
Voucher No. 379, J. F. Stewart	100 00	
Voucher No. 380, E. L. Mottley	22 76	
Voucher No. 381, Bush-Krebs Company	7 75	
Voucher No. 382, Geo. Hughes	26 89	
Voucher No. 383, Times-Journal Publishing Company	659 01	
Voucher No. 384, Dr. A. T. McCormack	100 00	
Voucher No. 385, Dr. L. H. South	25 00	
Voucher No. 386, Dr. V. E. Simpson	25 00	
Voucher No. 387, Mary Francis Shea	25 00	
Voucher No. 388, Clyde W. Howell	60 00	$1661 20
Net Balance		$5283 72
Office furniture, stationery and supplies per Exhibit "D"		$1207 58
Total Assets		$6491 30

Every item of disbursements was carefully scrutinized, compared and checked with the entries in the various ledger accounts. Each voucher contained an itemized statement of the account and all vouchers were indorsed but receipts on end of vouchers in many cases were not signed. The cancelled vouchers in hands of the Treasurer agreed exactly with Secretary's stubs except outstanding vouchers above mentioned.

All amounts on Secretary's Cash Book from the various sources were found to agree with Treasurer's statement.

The exhibits herewith submitted furnish you a full statement in aggregate and detail of the entire business of the year.

EXHIBIT "A"—Receipts and Disbursements of Cash of Your Association, which includes Secretary and Treasurer, from September 1, 1912, to September 1, 1913.

EXHIBIT "B"—Detailed Statement of Disbursements of W. B. McClure, Treasurer, Kentucky State Medical Association, each made on a voucher check, signed by D. O. Hancock, President, A. T. Mc-

Cormack, Secretary, and himself, from September 1, 1912, to September 1, 1913.

EXHIBIT "C"—Detailed List Receipts County Societies, from September 1, 1912, to September 1, 1913.

EXHIBIT "D"—Invoice of Property of Association, September 1, 1913.

EXHIBIT "G"—Secretary's Monthly Balance Sheet, agreeing with the books.

EXHIBIT "H"—Collections by Editor on Account of Kentucky State Medical Journal, corresponding with checks for even amounts filed herewith.

EXHIBIT "I"—Collections by Secretary on Account of Kentucky State Medical Association, corresponding with checks for even amounts filed herewith.

We are pleased to report that we again find the books and records correctly and neatly kept and in perfect balance.

Respectfully submitted,
Potter-Matlock Trust Co.,
By B. P. Eubank,
Public Accountant.

EXHIBIT "A."

Receipts and Disbursements in Cash, Kentucky State Medical Association, Bowling Green, Ky., September 1, 1912, to September 1, 1913:

RECEIPTS.

Dues of county societies and subscriptions to Journal		$5908 25
Income of Journal, advertising, etc. .	$5598 52	
Income of Journal, Agency for Health Supplies	1316 68	$6915 20
		$12823 45
Balance September 1, 1912, in bank credit of Treasurer		4953 36
Total Receipts, including balance		$17776 81

DISBURSEMENTS.

Printing Journal, twelve months . .	$4060 50	
Salary of Secretary	1200 00	
Expenses annual meeting Louisville 1912	1150 59	
Expenses annual meeting Bowling Green, 1913	20 80	
Salary of Stenographer	720 00	
Advertising commissions for Journal . .	163 33	
Salary of Business Managers, Regular and Jefferson Co.	600 00	
Journal Sundries	359 81	
Medico-Legal Committee	1260 40	
Medical Practice Fund	591 99	
Expenses of Officers, Councilors and Committees	345 76	
Printing other than Journal	55 00	
Sundries, Secretary's office	67 25	
Stamps and Envelopes, Secretary	277 04	
Office Expenses and Bond, Treasurer . .	50 20	
Postage on Journal	160 02	
Express, Freight and Hauling, Journal	4 30	
Salary, Microscopist	300 00	
Health Supply Agency of Journal . . .	1106 10	
Total Disbursements		$12493 09
Balance September 1, 1913		5283 72
Total		$17776 81

EXHIBIT "B".

Detailed Statement of Disbursements of W. B. McClure, Treasurer, Kentucky State Medical Association, each made on a Voucher Check signed by D. O. Hancock, President, A. T. McCormack, Secretary, and himself, from September 1, 1912, to September 1, 1913.

1912.				
October 1.	Voucher Check No. 246			$108 32
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage for September 1st issue	$ 8 32		
	To salary for Septemoer	100 00		
October 1.	Voucher Check No. 247			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To September salary. Bus. Man. Reg. Journal.			
October 1.	Voucher Check No. 248			$ 25 00
	DR. VIRGIL E. SIMPSON,			
	To September salary. Business Manager Jefferson County Number.			
October 1.	Voucher Check No. 249			$ 25 00
	MARY FRANCIS SHEA.			
	To salary for September as microscopist.			
October 1.	Voucher Check No. 250			$ 25 00
	DR. J. H. HENDREN, Cary, Ky.			
	To amount allowed by Council for preparing paper for State Meeting.			
October 1.	Voucher Check No. 251			$ 25 00
	DR. O. P. NUCKOLS, Pineville, Ky.			
	To amount allowed by Council for preparing paper for State Meeting.			
October 1.	Voucher Check No. 252			$144 75
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To 2200 48-page September 15th Journals	$145 00		
	To 2200 envelopes	2 20		
	To 3000 ems. killed	1 20		
	To 18 changes	3 60		
	By 31 type errors		7 75	
	To telephone message—Louisville	50		
October 1.	Voucher Check No. 253			$ 60 00
	CLYDE W. HOWELL.			
	To September salary. Stenographer.			
November 1.	Voucher Check No. 254			$ 67 50
	MYERS MFG. CO., Camden, New Jersey.			
	To 150 gross Myers' patent tin boxes, freight prepaid to Bowling Green, Kentucky, for State Board of Health.			
November 1.	Voucher Check No. 255			$255 11
	MESSRS. S. W. BASSETT & CO., Providence, R. I.			
	To 600 rolled gold buttons at $ .26	$156 00		
	To 500 gold plated bars with "Louisvile"	95 00		
	To tools for new buttons	12 00		
		$263 00		
	By 3 per cent. discount for cash	7 89		
		$255 11		

November 1. Voucher Check No. 258			$ 25 00
DR. VIRGIL E. SIMPSON,			
To salary for October as Business Manager of the Jefferson County Journal.			
November 1. Voucher Check No. 260			$ 51 00
DR. E. L. HENDERSON, Treasurer, Louisville, Kentucky.			
To 17 banquet tickets for exhibitors. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 261			$ 50 00
DR. MARTIN H. FISCHER, Cincinnati, Ohio.			
To 1-2 prize for best scientific exhibit for 1912. Awarded by Council and ordered paid by House of Delegates after being approved.			
November 1. Voucher Check No. 262			$ 50 00
DR. J. H. HENDREN, Cary, Kentucky.			
To 1-2 prize for best scientific exhibit for 1912. Awarded by Council and ordered paid by House of Delegates after being approved.			
November 1. Voucher Check No. 263			$100 00
MR. GEO. E. JONES, Financial Agent, First Christian Church, Louisville.			
To light, etc., for church during meeting in Louisville, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 264			$ 25 00
MR. B. P. EUBANK, Auditor, Bowling Green, Kentucky.			
To auditing books and a counts of Secretary and Treasurer for 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 265			$ 1 65
STANDARD PRINTING CO., Louisville, Kentucky.			
To 35 ribbon badges for officers. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 266			$ 12 00
MESSRS. KLEIN & SON, Louisville Kentucky.			
To rent of tables for Louisville session. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 267			$ 25 00
DR. I. A. SHIRLEY, Winchester, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 268			$ 31 05
DR. J. G. CARPENTER, Stanford, Kentucky.			
To expenses as President for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 269			$ 11 75
DR. R. C. McCHORD, Lebanon, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 270			$ 5 23
DR. D. M. GRIFFITH, Owensboro, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 271			$ 2 75
DR. ERNEST RAU, Bowling Green, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 272			$ 3 00
DR. L. F. HAMMONDS, Dunnville, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 273			$ 28 70
DR. W. B. McCLURE, Lexington, Kentucky.			
To expense for 1912 as Treasurer.			
November 1. Voucher Check No. 274			$ 34 68
DR. J. S. LOCK, Barboursville, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 275			$ 66 00
DR. C. Z. AUD, Cecilian, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 276			$ 15 50
DR. W. W. RICHMOND, Clinton, Kentucky.			
To expenses as councilor for year, 1912. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 277			$116 30
DR. D. O. HANCOCK, Henderson, Kentucky.			
To expenses for 1911-12 as President-Elect. Approved by Council and ordered paid by House of Delegates.			
November 1. Voucher Check No. 281			$ 91 73
MESSRS. W. J. & J. G. DENHARDT, Bowling Green, Kentucky.			
To 15 per cent. commission on $252.26 (Jeff. Co. Renewals)	$37 83		
To 25 per cent. commission on $51.58 (Jeff. Co. new)	12 90		
To 25 per cent. commission on $134.00 (Reg. Journal ads)	33 50		
To 15 per cent. commission on $50.00 (Reg. Journal ads)	7.50		
November 1. Voucher Check No. 282			$495 20
TIMES-JOURNAL PUBLISHING COMPANY.			
To 2500 80-page Oct. 1st Journals	$250 00		
By 47 typographical errors		11 75	
To 2500 envelopes	2 50		
To 9 changes in Regular Journal	1 80		
To difference in setting tabular matter	22 40		
To telephone Louisville—Jeff. County number	50		
To run over 16 pages 2500—one-half	12 25		
To 5000 ems killed	2 05		
To 500 letter heads	2 50		
To 2500 blank cards	2 50		
To 1500 letter heads	5 50		
To 1000 registration cards	3 75		
To 1000 16-page programs for State meeting	20 00		
To galley proofs papers for State meeting	17 50		
To putting in inserts Regular Journal	2 50		
To 250 yards ribbon for badges	5 00		
To printing badges	1 75		
To reprints Dr. Hancock's paper	3 00		

	To 1000 letter heads	4 00		
	To 2300 48-page Jefferson County Oct. 15th JOURNALS	150 00		
	By 33 type errors		8 25	
	To 2300 envelopes	2 30		
	To 17 changes	3 40		
November 1.	VOUCHER CHECK NO. 284			$107 12
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To 4000 No. 5 stamped envelopes	$ 84 96		
	To 1000 No. 9 stamped envelopes	22 16		
November 1.	VOUCHER CHECK NO. 285			$ 50 74
	MR. T. J. PARROTT, Louisville, Kentucky.			
	To work done for the State Board of Health in prosecutions, under the Medical Practice Act, from October 24, to Nov. 2, 1912, inclusive, at $5.00 a day	45 00		
	To cash expended as per voucher	5 00		
	To cash for back numbers of newspapers	14		
	To cash for typewriting	60		
December 1.	VOUCHER CHECN NO. 256			$124 92
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To burlap and tacks	5 30		
	To freight	75		
	To postage for September 15th JOURNAL	7 27		
	To postage for October 1st JOURNAL	11 60		
	To salary for October	100 00		
December 1.	VOUCHER CHECK NO. 257.			$ 39 35
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To Hotel and meals, Louisville meeting	14 35		
	To salary for October, Bus. Mgr. Regular issue.	25 00		
December 1.	VOUCHER CHECK NO. 259.			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To salary for October as Assistant to Editor of JOURNAL.			
December 1.	VOUCHER CHECK NO. 278.			$ 17 60
	MISS FLOY WYATT, Bowling Green, Kentucky.			
	For services in registration department.			
December 1.	VOUCHER CHECK NO. 279			$ 49 25
	MISS MAYME SULLIVAN, Bowling Green, Ky.			
	To honorarium	$ 25 00		
	To hotel and meals	15 25		
	To Incidentals	9 00		
	Approved by Council and ordered paid by House of Delegates.			
December 1.	VOUCHER CHECK NO. 283			$ 80 45
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To October salary as stenographer	$ 60 00		
	To hotel and meals at State meeting	16 45		
	To baggage	3 00		
	To livery	1 00		
	Approved by Council and ordered paid by House of Delegates.			
December 1.	VOUCHER CHECK NO. 286			$135 00
	MYERS MFG., CO., Camden, New Jersey.			
	To 150 gross Myers' patent tin boxes, shipped Dr. Smock	$ 67 50		
	To 150 gross Myers' patent tin boxes, shipped Dr. Ward	67 50		
December 1.	VOUCHER CHECK NO. 287			$300 00
	MESSRS. HINES & NORMAN, Attorneys, Louisville, Kentucky.			
	To retainer as General Counsel for year, 1912.			
December 1.	VOUCHER CHECK NO. [illegible]			$ 30 00
	MR. GEO. A. JONES, Financial Agent, First Christian Church, Louisville, Kentucky.			
	To contribution to Church as per letter to Dr. A. C. L. Percefull, Secretary Jefferson County Medical Society.			
December 1.	VOUCHER CHECK NO. 289			$500 00
	HON. AARON KOHN, Louisville, Kentucky.			
	In full compensation for legal services in case of Commonwealth vs. Advance Medical Institute, Whitman et al.			
December 1.	VOUCHER CHECK NO. 290			$ 16 25
	MR. T. J. PARROTT, Louisville, Kentucky.			
	To 3 days' service as detective	$ 15 00		
	To expenses including car fares	95		
	To stenographer	30		
December 1.	VOUCHER CHECK NO. 291			$110 54
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage for October 15th JOURNAL	$ 4 66		
	To postage for November 1st JOURNAL	5 88		
	To salary for November	100 00		
December 1.	VOUCHER CHECK NO. 292			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To salary for November as Business Manager Regular JOURNAL.			
December 1.	VOUCHER CHECK NO. 293			$ 60 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			$ 25 00
	To salary for November as Business Manager Jefferson County JOURNAL.			
December 1.	VOUCHER CHECK NO. 294			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To salary for November as assistant to Editor.			
December 1.	VOUCHER CHECK NO. 295			$ 72 00
	MYERS MFG. CO., Camden, New Jersey.			
	To 150 gross Myers' patent tin boxes, shipped to Dr. B. W. Smock, Louisville, Ky.			
December 1.	VOUCHER CHECK NO. 296			$ 25 00
	MRS. S. D. FOOKES, Louisville, Kentucky.			
	To full compensation for detective work in case of Commonwealth vs. Advance Medical Institute, Whitman et al. Authorized by the House of Delegates.			
December 1.	VOUCHER CHECK NO. 297			$ 2 90
	WESTERN UNION TELEGRAPH COMPANY, Bowling Green, Kentucky.			
	To telegrams on program for Louisville session.			
December 1.	VOUCHER CHECK NO. 298			$ 10 00
	KENTUCKY TENT & AWNING COMPANY, Louisville, Kentucky.			
	To rent on paulins for darkening Church at Louisville session.			
December 1.	VOUCHER CHECK NO. 299			$ 5 00
	C. F. BIERBAUM & BRO., Louisville, Kentucky.			
	To 4 muslin signs for Annual meeting in Louisville. Approved by Council and ordered paid by House of Delegates.			
December 1.	VOUCHER CHECK NO. 300			$ 4 80
	THE GLOBE-WERNICKE COMPANY, Cincinnati, Ohio.			
	To 2000 yellow account cards.			

December 1.	VOUCHER CHECK NO. 301			$ 1 00
	BIGELOW BINDER COMPANY, New York, N. Y.			
	To Binder in Black No. 75, stamped back and cover 2 lines for JOURNALS.			
December 1.	VOUCHER CHECK NO. 280			$ 42 80
	MR. J. G. DENHARDT, Bowling Green, Ky.			
	To honorarium	$ 25 00		
	To hotel and meals	17 50		
	To incidentals	30		
	Approved by Council and ordered paid by House of Delegates.			
December 1.	VOUCHER CHECK NO. 302			$502 44
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To express on cuts	$ 40		
	To 1000 letter heads and envelopes (President)	6 50		
	To 500 letter heads and envelopes (Councilor Second District	4 00		
	To 500 letter heads and envelopes (Pres-Elect.)	4 00		
	To 500 letter heads and envelopes (1st Vice-Pres.)	4 00		
	To 500 etter heads and envelopes (2nd Vice-Pres.)	4 00		
	To 500 letter heads and envelopes (3rd Vice-Pres.)	4 00		
	To express prepaid on stationery to above	2 10		
	To 2300 48-page November 1st JOURNALS	150 00		
	By 17 type errors in same		4 25	
	To 2300 envelopes	2 30		
	To 6 changes in copy	1 20		
	To 33600 ems killed	13 44		
	To 2500 letter heads for Secretary	8 50		
	To 2300 48-page November 15th Jefferson County issue	150 00		
	By 23 type errors		5 75	
	To 2300 envelopes	2 30		
	To 8500 ems killed	3 40		
	To 15 changes in copy	3 00		
	To 2300 December 1st 48-page Regular issue	150 00		
	By 12 type errors in same		3 00	
	To 2300 envelopes	2 30		
December 1.	VOUCHER CHECK NO. 303			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To salary for November as stenograpber.			
1913.				
January 1.	VOUCHER CHECK NO. 304			$250 00
	MESSRS. ROBBINS & THOMAS, Mayfield, Ky.			
	In full for fee as attorneys for Medico-Legal Committee in case of Harper vs. Bogard et al.			
January 1.	VOUCHER CHECK NO. 305			$150 00
	J. N. SHARP, Attorney, Williamsburg, Ky.			
	To fee in trial of Parks vs. Ellison & Crawley, Whitley County.			
January 1.	VOUCHER CHECK NO. 306			$120 66
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage on December 1st JOURNAL	$ 5 66		
	To postage on December 15th JOURNAL	4 87		
	To postage on January 1st JOURNAL	5 89		
	To State and County taxes for 1912	4 24		
	To salary for December	100 00		
January 1.	VOUCHER CHECK NO. 307			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To salary for December. Business Manager Regular number of the JOURNAL.			
January 1.	VOUCHER CHECK NO. 308			$ 25 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
	To salary for December. Business Manager Jefferson County number.			
January 1.	VOUCHER CHECK NO. 309			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To salary for December. Assistant to Editor of JOURNAL.			
January 1.	VOUCHER CHECK NO. 310			$ 3 95
	MESSRS. D. C. BRENNER & COMPANY, Louisville, Kentucky.			
	To two rubber stamps.			
January 1.	VOUCHER CHECK NO. 311			$ 15 00
	MESSRS. FURNAS & MADDOX, Louisville, Ky.			
	To operator and lantern for stereopticon for address on Scientific program, Louisville meeting. Approved by Council and ordered paid by House of Delegates.			
January 1.	VOUCHER CHECK NO. 312			$ 29 68
	THE FREY PLANING MILL COMPANY, Louisville, Ky.			
	To 8 pieces 2x4x9 disie yp, at .20	$ 1 60		
	To 10 pieces 2x4x10 at .22	2 20		
	To 8 pieces 2x4x7 at .15	1 20		
	To 400 ft Bm. No. 3 Com. yp sheathing at 22.00	8 80		
	To 5 lbs nails, at .05	25		
	To 2 pieces 2x4x8 disie yp, at .15	30		
	To2 pieces 7-8x 8x16 sheatbing, at .35	70		
	To 6 pieces 7-8x 8x10 No. 2 Com. sbeathing at .25	1 50		
	To 4 pieces 2x4x10, disie yp, at .22	88		
	To labor	12 25		
	Lumber used in making booths for Commercial Exhibit. By order of the Council.			
January 1.	VOUCHER CHECK NO. 313			$ 3 50
	FRED W. KEISKER & SON, Louisville, Ky.			
	To rent of seven large kitcben tables for Exhibit Hall. Approved by Council and ordered paid by House of Delegates.			
January 1.	VOUCHER CHECK NO. 314			$ 27 00
	COURIER-JOURNAL JOB PRINTING COMPANY, Louisville, Ky.			
	To 3100 membership cards lithographed "1913."			
January 1.	VOUCHER CHECK NO. 315			$404 35
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To 2 sets special ruled blanks, 2 sides, 500 each	$ 9 00		
	To 2400 48-page Dec. 15th Jefferson County JOURNALS	155 00		
	By 11 errors		2 75	
	To 2400 envelopes	2 40		
	To 18 cbanges	3 60		
	To 2500 80-page January 1st JOURNALS	250 00		
	By 16 type errors		4 00	
	By 2 days' delay		20 00	
	To 2500 envelopes	2 50		
	To difference setting index in 6 pt. type, 21,000	8 60		

January 1. Voucher Check No. 316			$ 60 00
CLYDE W. HOWELL, Bowling Green, Kentucky.			
To salary for December as stenographer.			
February 1. Voucher Check No. 317			$159 84
MESSRS. HINES & NORMAN, Louisville, Ky.			
Expenses incurred by Hines & Norman in Medical Defense cases during the year 1912:			
August 28. Telephone call, Henderson, Ky. ... (Allen vs. Ligon)	$ 55		
September 3. Telephone call, Bowling Green,.. (Kinner vs. Hurst)	50		
September 3. Telegram, Hazard, Ky (Kinner vs. Hurst)	1 36		
September 6. Telegram, Hazard, Ky. (Kinner vs. Hurst)	1 63		
September 9. Telegram, Hazard, Ky. (Kinner vs. Hurst)	1 30		
September 12. Telegram, Hazard, Ky. (Kinner vs. Hurst)	50		
November 18-19. Expense to trip to Paducah totry Harper vs. Bogard et al	22 50		
Advanced to stenographer for taking testimon in Harper vs. Bogard	5 00		
Advanced to pay Marshal's fees in Harper vs. Bogard	1 60		
November 26. Expense trip to Henderson for Conference in Allen vs. Ligon	9 00		
December 13. Costs paid in McCormack vs. Hazenbuler	14 40		
December 20. Copy from Florida Asylum records in Reno vs. Yeaman	1 50		
Total	$ 59 84		
Fees due Hines & Norman:			
To fee in Harper vs. Bogard	50 00		
To fee in Reno vs. Yeaman	35 00		
To fee in McCormack vs. Hazenbuler	15 00		
Total amount due	$159 84		
February 1. Voucher Check No. 318			$ 72 00
MYERS MFG. COMPANY, Camden, New Jersey.			
To 150 gross Myers' patent tin boxes, freight prepaid to Bowling Green, for State Board of Health.			
February 1. Voucher Check No. 319			$ 72 00
MYERS MFG. COMPANY, Camden, New Jersey.			
To 150 gross Myers' patent tin boxes, sold to Dr. Sidney D. Porter, State Board of Health, New Orleans, La.			
February 1. Voucher Check No. 320			$ 72 00
MYERS MFG. COMPANY, Camden, New Jersey.			
To 150 gross Myers patent tin boxes, sold to Mississippi State Board of Health, Jackson, Miss.			
February 1. Voucher Check No. 321			$ 68 40
MYERS MFG. COMPANY, Camden, New Jersey.			
To 150 gross Myers' patent tin boxes, sold to Dr. J.LaBruceWard, Columbia, S. C.			
February 1. Voucher Check No. 322			$115 90
DR. A. T. McCORMACK, Bowling Green, Ky.			
To January salary	$100 00		
To postage for January 1st Journal	9 72		
To postage for January 15th Journal	6 18		
February 1. Voucher Check No. 323			$ 25 00
DR. L. H. SOUTH, Bowling Green, Kentucky.			
To January salary as Business Manager for Regular Journal.			
February 1. Voucher Check No. 324			$ 25 00
DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
To January salary as Business Manager for Jefferson County issue.			
February 1. Voucher Check No. 325			$ 25 00
MARY FRANCIS SHEA, Bowling Green Ky.			
To salary for January as assistant to Editor of Journal.			
February 1. Voucher Check No. 326			$255 75
MR. WILLIAM WHITFORD, Chicago. Ill.			
To reporting proceedings of the general session, House of Delegates and Secretaries' Association for publication in Journal as assistant to the Editor. By order of the Council.			
February 1. Voucher Check No. 327			$420 20
TIMES-JOURNAL PUBLISHING COMPANY.			
To 500 letter heads and envelopes for Drs. Rau & McChord	$ 8 00		
To express	40		
To postage on cuts to Louisville	20		
To 2500 48-page Jefferson County Journals January 15th issue	160 00		
By 9 type errors in same		2 25	
To 2500 envelopes	2 50		
To 8 changes	1 60		
To 2500 80-page February 1st issue	250 00		
By 11 type errors in same		2 75	
To 2500 envelopes	2 50		
February 1. Voucher Check No. 328			$ 60 00
CLYDE W. HOWELL, Bowling Green, Kentucky.			
To salary for January as stenographer to Secretary.			
March 1. Voucher Check No. 329			200 96
DR. A. T. McCORMACK, Bowling Green, Ky.			
To postage for February 1st Journal	$ 9 95		
To postage for February 15th Journal	6 05		
To 4000 two-cent stamped envelopes	84 96		
To February salary	100 00		
March 1. Voucher Check No. 330			$ 25 00
DR. L. H. SOUTH, Bowling Green, Kentucky.			
To February salary as Business Manager of Regular issue of the Journal.			
March 1. Voucher Check No 331			$ 25 00
DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
To February salary as Business Manager of Jefferson County number.			
March 1. Voucher Check No. 332			$ 25 00
MARY FRANCIS SHEA, Bowling Green Ky.			
To February salary as assistant to Editor of Journal.			
March 1. Voucher Check No. 333			$ 40 96
MESSRS. W. J. & J. G. DENHARDT. Bowling Green, Ky.			
To 25 per cent commission on $72.38 (Jefferson County new ads)	$ 18 10		
To 15 per cent. commission on $90.76 (Jefferson County renewals)	13 61		
To 25 per cent. commission on $37.00 (Regular Journal ads)	9 25		

March 1.	VOUCHER CHECK NO. 334				$ 21 50
	DR. W. B. McCLURE, Lexington, Ky.				
	To 1000 Eng. Envelopes (October 19th)		$ 7 00		
	To 1000 Eng. Envelopes (January 20th)		7 00		
	To 1100 sheets paper		7 50		
March 1.	VOUCHER CHECK NO. 335				$ 50 00
	MESSRS. TAYLOR & EAVES, Greenville, Ky.				
	To attorneys' fee in case of Vincent vs. Woodburn.				
March 1.	VOUCHER CHECK NO. 336				$ 94 66
	MESSRS. HINES & NORMAN, Attorneys, Louisville, Ky.				
	To attorneys' fee in case of Vincent vs. Woodburn		$ 50 00		
	To paid stenographer for taking desposition of Dr. McCown		4 40		
	To long distance telepnone toll		40		
	To expenses J. V. Norman to Greenville		14 26		
	To Court Costs as follows:				
	To file ans. 15 order 25		40		
	To file affidavit 15 order 25		40		
	To file statement 15, order 25		40		
	To issue spa		30		
	To order personal attendance of witnesses		25		
	To 7 copies		1 75		
	To enter attendance 9 witnesses		2 25		
	To judgment for cost		50		
	To attendance on trial		50		
	To tax cost 30, file papers 30, steps 10, index 10.		80		
	To file deposition		15		
	To copy cost		25		
	To T. L. Roll, Sheriff, ex. 10 spas		2 50		
	To T. L. Roll, Sheriff, ex 8 orders		1 75		
	To deposition		4 40		
	To witnesses as follows: T. J. Slaton, C. B. Martin, L. P. Moore, Joe M. Ferguson N. C. McCown, Chas. Pittman, J. A. Smith, W. C. Houston, Whitehouse (All one day		9 00		
March 1.	VOUCHER CHECK NO. 337				$422 90
	TIMES-JOURNAL PUBLISHING COMPANY.				
	To 4000 linen letter heads (24 lb)		$ 12 00		
	To 1000 bill heads		2 25		
	To 2500 48-page February 15th JOURNALS		160 00		
	By 22 type errors			5 50	
	To 2500 envelopes		2 50		
	To 22 changes in copy		4 40		
	To 4500 ems killed		1 80		
	To 2500 80-page March 1st JOURNALS		250 00		
	By 41 errors typographical			10 25	
	To 16 changes in copy		3 20		
	To 2500 envelopes		2 50		
March 1.	VOUCHER CHECK NO. 338				$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.				
	To February salary as stenographer.				
April 1.	VOUCHER CHECK NO. 339				$ 3 75
	DR CYRUS GRAHAM, Henderson, Ky.				
	To 25 per cent. commission on Logab Tobacco Company, Henderson, advertisement in regular issue of the JOURNAL.				
April 1.	VOUCHER CHECK NO. 340				$116 02
	DR. A. T. McCORMACK, Bowling Green, Ky.				
	To postage March 1st JOURNAL		$ 9 85		
	To postage March 15th JOURNAL		6 17		
	To salary for March		100 00		
April 1.	VOUCHER CHECK NO. 341				$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.				
	To salary for March as Business Manager Regular issue of the JOURNAL.				
April 1.	VOUCHER CHECK NO. 342				$ 25 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.				
	To salary for March as Business Manager of Jefferson County number.				
April 1.	VOUCHER CHECK NO. 343				$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.				
	To salary for March as assistant to Editor of JOURNAL.				
April 1.	VOUCHER CHECK NO. 345				$ 75 00
	MESSRS. BERRY & GRASSHAM, Paducah, Ky.				
	To attorneys' fee in case of Jones vs. Harkey, Paducah.				
April 1.	VOUCHER CHECK NO. 344				$ 8 80
	MESSRS. McLEAN & BOONE, Louisville, Ky.				
	To taking depositions of Drs. Irvin Abell, W. C. Dugan, H. H. Grant, J. G. Sherrill andV. E. Simpson in case of Lucile Kenner vs. Dr. Taylor Hurst, pending in Perry County court—22p ages at .40.				
April 1.	VOUCHER CHECK NO. 346				$ 50 20
	MESSRS. HINES & NORMAN, Louisville, Ky.				
	To Dr. W. H. Jefferson to reimburse him for fee and expenses of Special Deputy Marshal paid by him in case of Harper vs. Bogard et al.		$ 2 10		
	To expense of trip to Hazard in case of Kenner vs. Hurst.		19 25		
	To fee for trip to Hazard in same case		50 00		
			$ 71 35		
	By amount refunded by Clerk of United States District Court Harper vs. Bogard et al	$ 7 75			
	By over-payment on bill for costs in Vincent vs Woodburn	13 40	21 15		
April 1.	VOUCHER CHECK NO. 347				$367 50
	TIMES-JOURNAL PUBLISHING COMPANY.				
	To postage on cuts		$ 35		
	To 82000 ems set up and killed		3 25		
	To 2500 48-page March 15th JOURNALS		160 00		
	By 11 type errors			2 75	
	To 2500 envelopes		2 50		
	To 16 changes		3 20		
	To 2500 64page April 1st JOURNALS		210 00		
	By 53 type errors in same			13 25	
	To 2500 envelopes		2 50		
	To 4 changes		80		
	To resetting type in ad		90		

April 1.	Voucher Check No. 348			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To salary for March as stenographer.			
May 1.	Voucher Check No. 349			$205 20
	MYERS MANUFACTURING COMPANY, Camden, New Jersey.			
	To 150 gross (20,000) Myers patent tin boxes ordered for Dr. Shirley	$ 68 40		
	To 150 gross (20,000) Myers patent tin boxes ordered for Dr. Lock	68 40		
	To 150 gross (20,000) Myers patent tin boxes ordered for Dr. South	68 40		
May 1.	Voucher Check No. 350			$112 02
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage for April 1st Journal	$ 7 17		
	To postage for April 15th Journal	4 85		
	To salary for April	100 00		
May 1.	Voucher Check No. 351			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To April salary as Business Manager for Regular issue of the Journal.			
May 1.	Voucher Check No. 352			$ 25 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
	To April salary as Business Manager for Jefferson County Journal.			
May 1.	Voucher Check No. 353			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To April salary as assistant to Editor of Journal.			
May 1.	Voucher Check No. 354			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To April salary as stenographer.			
May 1.	Voucher Check No. 355			$ 21 90
	MR. L. P. LAY, Clerk, Williamsburg, Ky.			
	To L. P. Lay for services	$ 5 40		
	To Jury fee	4 00		
	To Everett Steely, D. S.	2 25		
	To E. M. Early, D. S.	25		
	To Minnie Murphy, O. R.	10 00		
May 1.	Voucher Check No. 356			$ 3 50
	REMINGTON TYPEWRITER COMPANY, Louisville, Ky.			
	To one-half dozen typewriter ribbon coupon book No. 9553.			
May 1.	Voucher Check No. 357			$529 55
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To 2000 copies 48-page April 15th issue	$135 00		
	By 11 type errors in same		2 75	
	To 16 changes	3 20		
	To 2200 copies 80-page Journals, May 1st	235 00		
	By 21 errors in same		5 25	
	To 8 changes	1 60		
	To 4200 envelopes for both issues	4 20		
	To 500 Sub-Committee programs for Bowling Green Meeting	4 75		
	To amount due on cuts from Bush-Krebs Company	153 80		
June 2.	Voucher Check No. 358			$113 90
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage on May 1st Journal	$ 8 40		
	To postage May 15th Journal	5 50		
	To May salary	100 00		
June 2.	Voucher Check No. 359			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To May salary as Business Manager of the Regular issue of the Journal.			
June 2.	Voucher Check No. 360			$ 25 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
	To May salary as Business Manager for Jefferson County Number.			
June 2.	Voucher Check No. 361			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To May salary as assistant to Editor.			
June 2.	Voucher Check No. 362			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To May salary as stenographer to Secretary.			
June 2.	Voucher Check No. 363			$459 12
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To 2200 May 15th Jefferson County Journals 48-page	$150 00		
	To 18 changes	3 60		
	By 18 errors in same		4 50	
	To 2300 96-page June 1st Journals	285 00		
	To 26900 set up and killed	8 07		
	To 5500 envelopes for both Journals	5 50		
	To 3000 catalog envelopes	11 00		
	To 11 changes in regular Journal	2 20		
	By 7 errors in Regular Journal		1 75	
July 1.	Voucher Check No. 364			$ 68 40
	MYERS MANUFACTURING COMPANY, Camden, New Jersey.			
	To 150 gross Myers' patent tin boxes for StateBoard of Health.			
July 1.	Voucher Check No. 365			$ 68 40
	MYERS MANUFACTURING COMPANY, Camden, New Jersey.			
	To 150 gross Myers' patent tin boxes for StateBoard of Health.			
July 1.	Voucher Check No. 366			$ 68 40
	MYERS MANUFACTURING COMPANY, Camden, New Jersey.			
	To 150 gross Myers' patent tin boxes for State Board of Health.			
July 1.	Voucher Check No. 367			$186 80
	MYERS MANUFACTURING COMPANY, Camden, New Jersey.			
	To 450 gross Myers' patent tin boxes for State Board of Health.			
July 1.	Voucher Check No 368			$115 80
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage on June 1st Journal	$ 10 32		
	To postage on June 15th Journal	5 48		
	To salary for June.	100 00		
July 1.	Voucher Check No. 369			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To salary for June. Business Manager Regular issue of the Journal.			
July 1,	Voucher Check No. 370			$ 25 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
	To salary for June. Business Manager Jefferson County Journal.			
July 1.	Voucher Check No. 371			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To June salary. Assistant to Editor.			

July 1.	Voucher Check No. 372			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To June salary. Stenographer to Secretary.			
July 1.	Voucher Check No. 373			$175 64
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To postage Simpson	$ 24		
	To express on cuts from Louisville	30		
	To express on cuts to Louisville	30		
	To extra red pages (June 15th issue)	8 00		
	To 2500 Jefferson County Journals June 15th 48-page	160 00		
	By 21 errors in same		5 25	
	To printing envelopes	1 50		
	To 2000 letter heads	6 50		
	To 5 cuts for Dr. Crile's paper	3 75		
	To express on same	30		
August 1.	Voucher Check No. 374			$201 19
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To postage for July 1st Journal	$ 10 70		
	To postage for July 15th Journal	5 53		
	To 4000 two-cent stamped envelopes	84 96		
	To July salary	100 00		
August 1.	Voucher Check No. 375			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To July Salary. Business Manager of Regular Journal.			
August 1.	Voucher Check No. 376			$ 25 00
	DR. VIRGIL E. SIMPSON, Louisville, Kentucky.			
	To July salary. Business Manager of Jefferson County Journal			
August 1.	Voucher Check No. 377			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To July Salary. Assistant to Editor.			
August 1.	Voucher Check No. 378			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To July salary. Stenographer to Secretary.			
August 1.	Voucher Check No. 379			$100 00
	HON. J. F. STEWART, Ashland, Ky.			
	To attorney's fee in case of Delaney vs. A. H. Moore in Boyd County.			
August 1.	Voucher Check No. 380			$ 22 76
	MR. E. L. MOTTLEY, City Tax Collector, Bowling Green, Ky.			
	To taxes for year 1913 for Kentucky State Medical Association.			
August 1.	Voucher Check No. 381			$ 7 75
	BUSH-KREBS COMPANY, Louisville, Ky.			
	To half-tone medical illustrations for Dr. Geo. H. Day's paper for State meeting.			
August 1.	Voucher Check No. 382			$ 26 89
	MR. GEO HUGHES, New York, N. Y.			
	To 15 per cent. commission	$ 4 39		
	To 15 per cent. commission	22 50		
August 1.	Voucher Check No. 383			$659 01
	TIMES-JOURNAL PUBLISHING COMPANY.			
	To express plates Bush-Krebs	$ 26		
	To 500 Commercial exhibits	2 75		
	To 500 applications for space	3 00		
	To 500 plans of Church	1 50		
	To 2300 96-page July 1st Journals	285 00		
	By 3 days delay		30 00	
	By 20 errors in same		5 00	
	To 2300 envelopes	2 30		
	To 2300 48-page July 15th Journals	150 00		
	By 16 errors in same		4 50	
	To 4600 envelopes for July 15th and Aug. 1st Journals	4 60		
	To 2200 August 1st Journals 80-page	240 00		
	By 18 errors in same		6 25	
	To 9 changes Jefferson County Journal	1 80		
	To cut of church Bush-Krebs Company, and express on same	13 55		
September 1.	Voucher Check No. 384			$100 00
	DR. A. T. McCORMACK, Bowling Green, Ky.			
	To August salary.			
September 1.	Voucher Check No. 385			$ 25 00
	DR. L. H. SOUTH, Bowling Green, Kentucky.			
	To August salary. Business Manager of Regular Journal.			
September 1.	Voucher Check No. 386			$ 25 00
	DR. VIRGIL E. SIMPSON, Louisvile, Kentucky.			
	To August salary. Business Manager of Jefferson County Journal			
September 1.	Voucher Check No. 387			$ 25 00
	MARY FRANCIS SHEA, Bowling Green Ky.			
	To August salary. Assistant to Editor.			
September 1.	Voucher Check No. 388			$ 60 00
	CLYDE W. HOWELL, Bowling Green, Kentucky.			
	To August Salary. Stenographer to Secretary.			

EXHIBIT "C."

Detailed list of receipts from county societies from September 1, 1912, to September 1, 1913, compared with incomes of same period last year.

	1912	1913
Adair	$ 17 50	$ 25 50
Allen	29 50	28 00
Anderson	15 00	21 00
Ballard	55 00	42 50
Barren	55 50	62 50
Bath	22 50	20 50
Bell	107 50	85 00
Boone	40 00	30 00
Bourbon	40 00	43 00
Boyd	45 00	54 00
Boyle	42 50	40 00
Bracken	19 50	28 00
Breathitt	15 00	1[illegible] 00
Breckinridge	45 00	55 00
Bullitt	32 50	27 00
Butler	15 00	23 00
Caldwell	37 50	37 50
Calloway	44 50	64 00
Campbell-Kenton	1[illegible]2 50	278 00
Carlisle	34 50	36 00
Carroll	37 50	51 00
Carter	47 50	45 00
Casey	17 50	26 00
Christian	95 00	126 00
Clark	65 00	66 50
Clay	27 50	27 50
Clinton	15 00	15 00
Crittenden	19 50	29 50
Cumberland	20 00	27 00
Daviess	175 00	210 00

Elliott	7 50	8 50
Fayette	170 50	173 00
Fleming	40 00	35 00
Franklin	57 50	60 00
Fulton	46 50	51 00
Gallatin	7 50	11 00
Garrard	27 50	32 00
Grant	40 00	50 00
Graves	75 00	83 00
Grayson	50 00	53 00
Green	17 50	18 00
Greenup	29 7	30 00
Hancock	5 00	8 00
Hardin	60 00	73 50
Harlan	15 00	11 00
Harrison	62 50	67 00
Hart	34 50	49 00
Henderson	97 50	102 00
Henry	35 00	55 50
Hickman	42 50	48 00
Hopkins	77 50	72 50
Jackson	17 50	9 00
Jefferson	610 00	788 00
Jessamine	27 50	25 00
Johnson	25 00	35 50
Knott	5 50	6 50
Knox	37 50	45 00
Larue	27 50	35 50
Laurel	30 00	41 50
Lawrence	12 50	14 00
Lee	15 00	17 50
Letcher	00 00	6 50
Leslie	00 00	13 00
Lewis	12 00	11 00
Lincoln	50 00	57 00
Livingston	20 00	28 00
Logan	67 50	78 00
Lyon	20 00	25 00
McCracken	125 00	129 50
McLean	28 00	28 00
Madison	50 00	56 50
Magoffin	17 50	17 50
Marion	50 00	54 00
Marshall	52 50	54 00
Martin	00 00	4 00
Mason	32 50	36 00
Meade	27 50	31 50
Menifee	00 00	6 00
Mercer	55 00	54 00
Metcalfe	27 50	29 50
Monroe	22 00	25 00
Montgomery	45 00	57 00
Morgan	28 25	15 00
Muhlenberg	70 00	87 00
Nelson	45 00	57 00
Nicholas	30 00	50 00
Ohio	37 50	38 50
Oldham	32 50	27 00
Owen	27 50	23 00
Owsley	[illegible] 50	18 00
Pendleton	45 00	51 50
Perry	19 50	32 00
Pike	23 00	25 00
Powell	20 00	22 00
Pulaski	57 50	68 50
Robertson	10 00	15 00
Rockcastle	32 50	19 50
Rowan	22 50	11 50
Russell	15 50	20 50
Scott	40 00	55 00
Shelby	67 50	76 00
Simpson	28 50	36 00
Spencer	17 50	21 00
Taylor	27 50	22 50
Todd	43 00	39 00
Trigg	22 50	26 00
Trimble	15 00	38 50
Union	54 50	62 00
Warren	160 50	167 50
Washington	35 00	39 00
Wayne	17 50	[illegible] 50
Webster	37 50	46 75
Whitley	60 00	84 50
Wolfe	21 75	25 50
Woodford	37 00	29 00

EXHIBIT "D."

Invoice of Property of Association, September 1, 1913.

Addressograph with 5,000 complete address plates with list device, etc.	$ 600 00
Folding Machine	140 00
2 Oliver Typewriters	200 00
1 Desk	79 00
Filing Cases	64 75
Rubber Stamps	9 00
Typewriter Cabinet	33 00
Guide Cards	7 48
1-3 Adding Machine	106 25
Typewriter Chair	8 00
1 Electric Fan	18 00
1 Desk Chair	32 50
1 Globe Cabinet Safe with Fixtures	130 00
5500 No. 5 two-cent Stamped Envelopes	118 80
500 No 8 two-cent Stamped Envelopes	10 80
TOTAL	$1557 58
Reduction for depreciation of machinery	350 00
	$1207 58

EXHIBIT "G."

Secretary's Monthly Balance Sheet agreeing with the books.

1912-13	Expenses.	Collections.	Balance.
September			$4953 36
October 1	$ 438 07	$ 532 80	5048 09
November 1	1722 01	1429 90	4755 98
December 1	2229 30	401 89	2928 48
January 1	1139 14	914 89	2704 23
February 1	1371 09	1677 11	3010 25
March 1	965 98	857 78	2902 05
April 1	756 27	2847 72	4993 50
May 1	1007 17	1875 20	5861 53
June 1	708 02	513 45	5666 96
July 1	768 44	1110 21	6008 73
August 1	1152 60	662 59	5518 72
September 1	235 00	....	5283 72
Total Collections		$12823 45	
Balance Sept 1, 1912		4953 36	
		$17776 81	
Balance Sept. 1, 1913			$ 5283 72
Total Expenses			12493 09
			$17776 81

EXHIBIT "H."

Collections by Editor on account of the JOURNAL corresponding with checks, deposit slips and receipts filed herewith.

1912-13	
October 1	$ 443 30
November 1	1225 90
December 1	388 30
January 1	791 89
February 1	806 61
March 1	206 28
April 1	502 47
May 1	772 70
June 1	354 95
July 1	841 21
August 1	581 59
September 1	000 00
	$6915 20

EXHIBIT "I."

Collections by Secretary on account of Kentucky State Medical Association corresponding with checks, deposit slips and receipts filed herewith.

1912-13	
October 1	$ 89 50
November 1	204 00
December 1	13 50
January 1	123 00
February 1	870 50
March 1	651 50
April 1	2345 25
May 1	1102 50
June 1	158 50
July 1	269 00
August 1	81 00
September 1	000 00
	$5908 25

REPORT OF THE SECRETARY.

I have the honor of submitting the following report from September 1, 1912 to September 1, 1913. The membership continues practically the same as for the past three years. Approximately two thousand of our members have paid their dues and are in good standing. As predicted last year, the dues were paid more promptly than ever before as members not in good standing cannot, of course, be defended in case even of unjust malpractice suits. It is a matter of regret that we still have approximately four hundred physicians, more or less, constantly on the roll of the county societies who delay paying their dues until just before or just after the annual meeting and are thus deprived of the JOURNAL and do not realize the great work being done by this Association. The most important work still before the Association is to make a real organization of all the county societies in place of the paper organization which exists in many of them. A county society which merely collects the dues of its members at an annual meeting is but little better than none and it is only by actual work on the part of some members of the profession in each county that these can be made worth while. If those of our members who have not had the benefit of regular meetings and the consequent interchange of scientific and other knowledge with their fellows, could attend one or two sessions of such societies as are held in Harrison, Fayette, Christian, Warren, Bell, Knox or many of the other sixty or more counties holding regular meetings, this condition of affairs would soon be brought to an end. The only use for our organization is that it better qualifies the practicing physicians who compose it to do the real work of caring for the sick and afflicted people of the State. To accomplish this result, it is essential that through the various agencies under our control we, as an organization, sufficiently benefit our doctors, both as individuals and as a whole, to make it worth while for them to continue our work. The results that have been obtained seem wonderful at the first superficial glance, but, to one who carefully studies conditions, we are but on the threshold of professional organization and are just beginning to realize the vast possibilities before us and the people we serve which call for a more intelligent and greater activity on our part. While the results obtained seem slow to many of us, yet our older members can easily recall the half century before the reorganization when the total paid membership of this Association never exceeded three hundred, when there were practically no county societies and when there was no professional organization except along social lines. The annual meeting would bring together from 20 to 100 of the best and most successful physicians in the State and it is astonishing that they were able to accomplish anything when we understand that 3,600 of the 4,000 doctors then practicing in Kentucky, never knew there was a Kentucky State Medical Society and a large proportion of them never realized that they were members and owed it obligations as distinguished from their own individual obligations. The Jefferson County Medical Society has not only a larger membership than the entire Association used to have, but under able and effective leadership, it has accomplished more in the last few years than the State Society did in its first forty years. Many of our county societies report a larger average attendance at their monthly meetings during the past year than the entire State used to have. Following the active campaign last year in Knox, Bell and Edmonson counties for the improvement of health conditions and prevention of those diseases we have learned how to prevent, similar campaigns have been conducted in Jefferson, Jackson, Whitley, Laurel, Madison, Clark and McCreary and our inspectors are at present engaged in what might be called "Health Revivals" in Christian, Pulaski, Rockcastle and Rowan counties. It is difficult for the profession in counties not yet reached to realize the tremendous value and importance of this work not only to the people but to the individual doctor. We now confidently expect to examine specimens for intestinal parasites from more than one-half of the population of each county in which we work. Such results have only been possible because of the consecrated labors of our four sanitary inspectors and even more than this because of the active, earnest and intelligent cooperation of practically every doctor in each of the counties where we have been. Our people have heretofore known nothing of the ravages of hookworm disease and have taken little thought of the scientific attainments acquired in recent years by our profession. The demonstration in these dispensaries of the fact that the trained microscopist can discover causes of a disease which they had not even suspected by the use of instruments of precision, put the people in an attitude of faith in and respect for the doctor, which had heretofore been wanting. The re-action of dispensaries in counties where they have been successful has been so favorable to the profession that we are already urged to repeat the campaign in the counties covered last year. Within the past few months, executive officers of almost half of the State Boards of Health in the Union have come to Kentucky to see these methods and have despaired of repeating them in their own states after seeing them because no other organization is so effective as ours.

There should be no let-up in the fight against those insurance companies whose examiners consist of only those members of our profession whose loss of self-respect or lack of attainment permit them to rate themselves as little better than half doctors. It is of special importance that we constantly keep in mind that the New York Life Insurance Company is the only one of the so-called reputable companies which continues to insult the profession by offering a wholly inadequate fee for examinations. Examiners for such a company are a reproach to the profession but it must be constantly kept in mind that it is not because they charge so little for their services, for most of them are paid more than they are worth, if they are paid anything, but because their professional training was not such as to entitle them to the modest compensation demanded by reputable and competent medical life insurance examiners. Of course, we all know that many medical students are not so grounded in Physical Diagnosis and the simpler laboratory methods necessary for insurance examiners as to make an examination by them of real value, and this Association should insist that its members should be properly equipped for service quite as earnest-ly as it did insist that they should be justly paid for them.

Our health campaigns in the various counties where they have been conducted have largely decreased the consumption of patent medicine. This has come from two causes: The one that the necessity for stimulants in them have been rapidly relieved by the relief of the chronic illnesses caused by intestinal parasites; the other, that the people have been educated as to their dangers and uselessness in real sickness. I regret to say it, but the people have accepted this reform more rapidly than the submerged element in our own profession have accepted the results of recent investigations as to the uselessness and dangers of nostrums and secret proprietary remedies. There can be no question that many lives have been sacrificed by the use of ready-made and hand-me-down pharmaceutical preparations of whose composition and indication manufacturers and prescriptionists, alike, are frequently entirely ignorant. This important matter cannot be discussed too frequently in county societies. Evidently no pharmaceutical combination should be prescribed unless its chemical composition has met the approval of the Council of Chemistry and Pharmacy of the American Medical Association, and it is to be regretted that many of the preparations they have approved are practically worthless, therapeutically. This campaign cannot be considered ended until our profession understands scientific chemistry and materia medica so they cannot be tempted to use the worthless drug messes now so frequent. Of course, the great majority of the reputable physicians of the State do not prescribe this class of mixtures, but it is to be regretted that a few men were so entirely untaught in college in pharmacology and materia medica that they have been constantly the prey of the nostrum manufacturer since their graduation until now it is almost a mental impossibility for them to really understand either the physiologic or therapeutic indications for drugs. It is a pleasure to say that from careful personal investigation in many counties, I find that the profession is returning to that practical study of drug therapy, which is essential to our vocation—that of therapeutists. I have heard a large number of practicing physicians in various parts of the State express their disgust with consultants from the towns and cities who insisted on prescribing some pharmaceutical mixture or food, about whose composition they knew nothing. It has been suggested that the family physician, in such cases, write a firm but kind letter of protest to the consultant. This will be far more effective than criticising him to the patient or to other physicians.

County.	Population.	Population to each Doctor.	Total Number of Doctors	Total Members	Non Members Graduated Since 1908.	Percent. of Doc-tors in Co. Society.	Percent. of Deaths from Prevent'le Dis.
FIRST DISTRICT.							
Ballard	13,317	493	27	17	0	62	40
Caldwell	13,920	632	22	15	2	68	39
Calloway	20,593	686	30	22	2	73	45
Carlisle	8,677	510	17	12	1	70	52
Fulton	14,948	553	27	16	5	59	55
Graves	33,648	672	50	31	5	62	45
Hickman	11,750	691	17	16	0	94	47
Livingston	10,393	742	14	9	1	64	38
Lyon	9,455	630	15	10	0	66	41
Marshall	16,445	657	25	18	0	72	46
McCracken	37,121	700	53	43	1	81	35
Trigg	14,690	979	15	9	1	60	47
TOTAL	204,957	657	312	218	18	69	44
SECOND DISTRICT.							
Breckinridge	21,196	662	32	18	1	56	44
Crittenden	12,682	792	16	12	0	75	44
Daviess	41,784	497	84	71	3	84	38
Hancock	8,384	931	9	2	0	22	45
Henderson	28,197	671	42	34	2	80	43
Hopkins	35,360	667	53	29	2	54	46
McLean	13,498	949	18	9	3	50	51
Muhlenberg	31,149	778	40	29	1	72	41
Ohio	27,758	925	30	15	1	50	39
Union	19,420	844	23	18	0	78	37
Webster	21,258	506	42	16	2	38	44
TOTAL	260,686	670	389	253	15	65	42
THIRD DISTRICT.							
Allen	14,955	934	16	11	0	68	42
Barren	25,974	895	29	22	1	75	42
Butler	15,777	1314	12	8	0	66	47
Christian	39,132	752	52	42	5	80	42
Cumberland	10,132	921	11	9	3	81	34
Logan	24,647	746	33	26	3	78	42
Metcalfe	10,604	706	15	10	2	66	46
Simpson	11,409	570	20	12	1	60	40
Todd	16,202	771	21	13	0	62	40
Warren-Edmonson	41,349	656	63	49	2	78	40
Monroe	13,860	770	18	11	2	61	40
TOTAL	224,041	772	290	213	16	73	41
FOURTH DISTRICT.							
Bullitt	9,453	675	14	8	0	57	34
Grayson	19,984	999	20	20	0	100	50
Hardin	22,619	611	37	25	2	67	32
Hart	18,102	822	22	17	0	77	44
Henry	13,424	462	29	19	2	65	42
Larue	10,682	763	14	12	0	85	45
Meade	9,539	733	13	12	1	92	38
Nelson	16,907	889	19	19	0	100	46
Oldham	7,303	486	15	11	0	73	31
Shelby	17,945	618	29	25	1	86	36
TOTAL	145,958	688	212	168	6	79	40
FIFTH DISTRICT.							
Anderson	10,176	726	14	7	0	50	35
Boone	8,853	340	26	13	2	50	28
Carroll	7,556	442	17	17	0	100	40
Franklin	21,225	663	32	20	1	62	38
Gallatin	4,546	505	9	4	1	44	46
Jefferson	272,786	547	498	234	92	47	33
Owen	13,176	658	20	9	1	45	43
Spencer	7,618	761	10	7	0	70	36
Trimole	6,266	895	7	7	0	100	44
TOTAL	352,202	556	633	318	97	50	38
SIXTH DISTRICT.							
Adair	17,027	1060	16	10	0	50	39
Boyle	14,945	996	15	14	0	93	34
Green	11,747	1174	10	7	1	70	43
Marion	16,343	860	19	8	0	94	35
Mercer	13,947	606	23	18	2	78	33
Taylor	12,248	1020	12	9	0	75	40
Washington	13,863	924	15	13	0	86	40
TOTAL	100,120	910	110	89	3	80	38
SEVENTH DISTRICT.							
Casey	15,589	1039	15	7	1	46	41
Clinton	8,244	1177	7	5	0	71	45
Garrard	11,846	987	12	11	1	91	42
Lincoln	18,168	698	26	19	2	73	40
Pulaski	37,510	1071	35	27	4	77	39
Rockcastle	15,140	1261	12	7	0	58	38

County.	Population.	Population to each Doctor.	Total Number of Doctors.	Total Members	Non-Members Graduated Since 1908.	Percent. of Doc-tors in Co. Society.	Percent. of Deaths from Prevent'le Dis
Russell	11,240	864	13	8	2	61	50
Wayne	18,370	1312	14	9	1	64	35
TOTAL	136,107	1015	134	93	11	69	41
		Eighth	District.				
Bourbon	17,267	493	35	13	1	37	33
Bracken	9,715	539	18	9	1	50	40
Campbell-Kenton	133,595	824	162	71	8	43	34
Fleming	15,739	629	25	11	2	44	41
Grant	9,716	441	22	17	1	58	44
Harrison	16,323	562	29	22	2	75	37
Jessamine	12,835	755	17	10	1	58	38
Mason	18,015	720	25	13	2	52	39
Nicholas	10,163	564	18	12	0	66	36
Pendleton	11,022	501	22	17	0	77	35
Robertson	3,870	430	9	5	2	55	38
Scott	16,593	754	22	18	0	82	39
Woodford	12,388	589	21	9	0	42	48
TOTAL	287,242	674	425	227	20	53	38
		Ninth	District.				
Boyd	24,941	804	31	18	2	58	45
Carter	22,532	1072	21	18	1	85	55
Elliott	9,628	1604	6	3	2	50	45
Floyd	19,621	1401	14	0	4	0	50
Greenup	19,463	926	21	10	1	47	46
Johnson	18,700	719	26	12	4	46	46
Lawrence	20,215	808	25	5	6	20	46
Lewis	16,569	1183	14	4	1	28	44
Magoffin	14,189	1773	8	7	0	87	42
Martin	7,782	2594	3	1	0	33	48
Pike	34,599	1183	29	10	6	34	47
TOTAL	208,239	1052	189	88	27	44	47
		Tenth	District.				
Bath	13,748	808	17	8	3	47	43
Breathitt	18,586	2323	8	6	1	75	34
Clark	18,407	593	31	22	1	70	42
Estill	12,469	1557	8	0	1	0	44
Fayette	49,547	619	80	68	5	85	32
Knott	11,468	1433	8	2	2	25	52
Letcher	11,094	1386	8	2	1	25	52
Lee	10,032	912	11	6	1	54	45
Madison	27,387	740	37	19	1	51	41
Menifee	5,938	1187	5	2	0	40	43
Montgomery	12,878	585	22	19	0	86	35
Morgan	17,385	1241	14	5	0	35	42
Owsley	8,336	1389	6	6	0	100	36
Perry	12,221	1018	12	9	0	75	50
Powell	6,212	690	9	7	0	77	46
Rowan	9,814	981	10	4	0	40	52
Wolfe	10,220	786	13	10	0	76	37
TOTAL	255,742	855	299	195	16	65	43
		Eleventh	District.				
Bell	32,587	880	37	32	0	86	37
Clay	18,576	1548	12	11	2	91	39
Harlan	10,800	1200	9	4	2	44	47
Jackson	10,789	3596	3	3	0	100	44
Knox	23,656	1314	18	15	1	83	40
Laurel	20,612	1145	18	16	0	88	43
Leslie	9,698	1932	5	4	1	80	45
Whitley	34,244	901	38	28	2	73	40
TOTAL	160,962	1149	140	113	8	80	42

I feel confident that the analysis of the usual membership tables will be found of special interest this year. It will be noted that the 1913 roll shows an increase over the five year average in the first, second, third, fourth, fifth, sixth, seventh, eighth, tenth and eleventh; the ninth district being the only one that shows a decrease. It is to be regretted that these ratios will be changed considerably by those members who will pay their dues before the annual meeting. From the larger table, it will be seen that we have a population of 748 persons to each registered physician in the State. There are 1147 registered physicians who are not members of this organization. The special attention of the House of Delegates is again called to the fact that 237 of these non-members graduated since 1908. I desire to again urge that arrangements be made with the faculty of the University of Louisville for a systematic course of lectures on Medical Economics and the advantages of society membership. This lectureship should be provided and conducted under the auspices of this Association. The medical profession and people of Kentucky have a right to be proud of the University of Louisville which now ranks among the very best of the medical colleges, and we can show this best by active cooperation with them in the really excellent work they are doing. It is noteworthy that 63 per cent. of the profession of Kentucky are members of their county societies.

The attached tables show the average membership for five years compared with membership for 1913 with the increase or decrease as the case may be:

First District.

County	Av. Memb'sbip for 5 yrs.	1913.	Inc.	Dec.
Ballard	19	17	..	2
Caldwell	19	15	..	4
Calloway	19	22	3	..
Carlisle	15	12	..	3
Fulton	15	16	1	..
Graves	24	31	7	...
Hickman	16	16	..	..
Livingston	6	9	3	..
Lyon	7 (3 yrs)	10	3	..
Marshall	13	18	3	..
McCracken	43	43	..	..
Trigg	9	9	..	..
TOTAL	207	218	20	9

Second District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Breckinridge	15	18	3	..
Crittenden	10	12	2	..
Daviess	66	71	5	..
Hancock	2	2	..	..
Henderson	34	34	..	..
Hopkins	24	29	5	..
McLean	11	9	..	2
Muhlenberg	24	29	5	..
Ohio	13	15	2	..
Union	21	18	..	3
Webster	7 (2 yrs)	16	9	..
TOTAL	227	253	31	5

Third District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Allen	10	11	1	..
Barren	21	22	1	..
Butler	9	8	..	1
Christian	32	42	10	..
Cumberland	9	9	..	..
Logan	24	26	2	..
Metcalfe	10	10	..	..
Monroe	10	11	1	..
Simpson	11	12	1	..
Todd	17	13	.	4
Warren-Edmonson	49	49	.	..
TOTAL	202	213	15	5

Fourth District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Bullitt	10	8	..	2
Grayson	20	20	..	..
Hardin	25	25	..	..
Hart	15	17	2	..
Henry	16	19	3	..
Larue	9	12	3	..
Meade	9	12	3	..
Nelson	18	19	1	..
Oldham	12	11	..	1
Shelby	22	25	3	..
TOTAL	156	168	15	3

Fifth District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Anderson	9	7	..	2
Boone	13	13	..	..
Carroll	13	17	4	..
Franklin	21	20	..	1
Gallatin	5 (4 yrs)	4	..	1
Jefferson	177	234	57	..
Owen	13	9	..	4
Spencer	6 (2 yrs)	7	1	..
Trimble	7	7	..	..
TOTAL	264	318	62	8

Sixth District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Adair	10	10	..	..
Boyle	15	14	..	1
Green	7	7	..	..
Marion	20	18	..	2
Mercer	15	18	3	..
Taylor	9	9	..	..
Washington	9	13	4	..
TOTAL	85	89	7	3

Seventh District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Casey	10	7	..	3
Clintou	7	5	..	2
Garrard	9	11	2	..
Lincoln	16	19	3	..
Pulaski	22	27	5	..
Rockcastle	9	7	..	2
Russell	6	8	2	..
Wayne	8	9	1	..
TOTAL	87	93	13	7

Eighth District.

County	Av. Memb'sbip for 5 yrs.	1913.	Inc.	Dec.
Bourbon	18	13	..	5
Bracken	5 (4 yrs)	9	4	..
Campbell-Kenton	65	71	6	..
Fleming	13	11	..	2
Grant	13	17	4	..
Harrison	24	22	..	2
Jessamine	9	10	1	..
Mason	13	13	..	..
Nicholas	11	12	1	..
Pendleton	15	17	2	..
Robertson	3	5	2	..
Scott	15	18	3	..
Woodford	11	9	..	2
TOTAL	215	227	23	11

Ninth District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Boyd	17	18	1	..
Carter	20	18	..	2
Elliott	4 (4 yrs)	3	..	1
Greenup	9 (3 yrs)	10	1	..
Johnson	10 (3 yrs)	12	2	..
Lawrence	4	5	1	..
Lewis	6	4	..	2
Magoffin	8 (2 yrs)	7	..	1
Pike	10	10	..	..
TOTAL	88	87	5	6

Tenth District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Bath	13	8	..	5
Breathitt	5	6	1	..
Clark	21	22	1	..
Estill	6	..	..	6
Fayette	56	68	12	..
Knott	4 (3 yrs)	2	..	2
Lee	5	2	..	3
Letcher	3 (2 yrs)	6	3	..
Madison	17	19	2	..
Menifee	2 (1 yr)	2	..	..
Montgomery	12	19	7	..
Morgan	5	5	..	..
Owsley	5	6	1	.
Perry	9	9	..	.
Powell	6	7	1	..
Rowan	8	4	..	4
Wolfe	8	10	2	..
TOTAL	185	195	30	20

Eleventh District.

County	Av. Memb'ship for 5 yrs.	1913.	Inc.	Dec.
Bell	22	32	10	..
Clay	9	11	2	..
Harlan	4	4	..	..
Jackson	2	3	1	.
Knox	14	15	1	..
Laurel	10	16	6	

Leslie	(2 yrs)	4	4	
Whitley	16	26	12	
TOTAL	77	113	36	0

It will be noted that the total resources of the Association are $6491.30. It has only been by most carefully husbanding our resources during the year that we have been able to do our work without impairing our capital. There were so few scientific discussions during the last annual session that we were able to save practically one entire JOURNAL and by printing other issues smaller, we reduced the cost of printing JOURNAL from $5368.75 last year to $4060.50 this year. At the last session, the House of Delegates made the annual assessment $3.00 instead of $2.50 so as to secure the increase of income thought necessary to carry on our work. After adjournment of the meeting, the technical point was raised that this increase was not made in accordance with the By-Laws. Acting under the instructions of the Council, all of our county societies were notified that they could pay either $2.50 or $3.00 for their dues for 1913. It is gratifying to report that only two societies formally decided to pay the $2.50 fee and that 1401 of our members did pay $3.00 each and 569 of them paid $2.50 each last year. When it is understood that this was practically a voluntary contribution on the part of this large proportion of our membership of fifty cents each for the work of the Association, it seems to me to be the most gratifying evidence that this work is really appreciated by the membership. I trust the House of Delegates will straighten this matter out so that there can be no possibility of a misunderstanding in the future.

From the report of Hon. R. M. Allen, head of the Food and Drug Division of the Experiment Station at Lexington, I can glean the following preliminary report of work during 1912:

The Food and Drug Division has been in the midst of preparing a biennial report of the work done under the Kentucky Food and Drugs Act for the two fiscal years ending June 30th, 1913. An inventory of the work for 1912 was taken on January 1st, and the method included a report from each chemist or inspector in charge of some particular department of work. The fiscal year of the State ends on June 30th. Heretofore our reports have not been delivered to the Governor until after the meeting of the legislature, and for which delay the Division has been primarily responsible. It is my purpose to present you, on June 30th of this year, a report in keeping with the biennial fiscal period, so that the Governor can have the same, with ample time for consideration, before the next meeting of the General Assembly, and so that the members elected to the legislature may have printed copies of the report at their disposal in connection with any proposed new legislation.

In an address before the last annual convention of the State Pharmaceutical Association, Governor McCreary complained that when he came into office he had found a lack of comprehensive and systematic reports on the various public affairs of the State, and which made it more difficult for him, as incoming Governor, to obtain a ready grasp of all the work of the State and its needs. He stated that he had found plenty of circulars on isolated matters, but that he was insisting that each public matter reported in the future shall be comprehensive, systematic and exhaustive of important information bearing upon the subject.

The Kentucky Food and Drugs Act requires that the Experiment Station shall make a special report upon the work under the Act to the Governor, and, in preparing a report for submission to you on June 30th, it is my plan not only to cover the work done during the past two years, but to give a general survey of the work during the past thirteen years, including the general policies of administration, the results accomplished, and the needs for the future. Already, in this connection, a large amount of very valuable and unpublished material is being gotten together, all of which it will be necessary to systematize, edit and index. We have done very little publishing during the past several years. We have been too busy doing the work to have time to publish it. Many of our most substantial results are not published. Another reason is that after accomplishing a result, and establishing the rights of the public in a particular matter, there has been no disposition to hail forth just simply for the credit that may come. It has been my experience, after thirteen years of constant association with control work, that he who makes the fight for the purpose of establishing some principle of importance to the interest of the general public, and not for the purpose of parading the fact that an individual or interest has accomplished far greater results for the general public. The permanency and non-political character of the work in Kentucky permits of such policy. Aside from this, however, there is much growing out of our work which needs publishing, in the interest of both the consumer and the trade and as a contribution to the general food and drug control literature.

SUMMARY FOR 1912.—FOOD ANALYSIS.

In the food laboratory, there were 2,754 samples of food analyzed, covering a wide range, and including meats, butters, condiments, syrups, dried fruits, rice, milk, liquors, flavoring extracts, bakery materials, and so on. It was found that with respect to fields in which we have been working in the past, adulteration and misbranding is greatly diminishing. In the new fields that we are working upon, as, for example, coating and polishing of rice, bleaching of dried fruits, the per cent. of adulteration is more extensive. This is also true with respect to samples obtained from open and wholesale packages in grocery stores, which will be referred to later under the head of inspections. We found an attempt to use sulphites in sausage, but it was easily stamped out. Some of the work from the standpoint of analysis, might well be referred to under heads as follows:

1. *Milk.* The analytical examination of milk for 1912 showed few instances of the use of antiseptics. It showed under 100 instances of watering for the whole State. The butter fat and solids not fat content of the milk show very much higher than in former years. This result has been due both to continuous inspections and *a change in the standard by which the milk has been gaged.* There is a standard in the United States for milk of 3.25 per cent fat, and 8.50 per cent. solids not fat. The Kentucky Jersey milk, of course, runs away beyond this standard; but, on the other hand, we have found a number of instances in connection with Holstein herds which run below the fixed standard. In prosecuting the cases we found the juries adverse to conviction where the milk ran close to the standard, and our examinations always showed a large number of samples suspected of being watered, and yet above the standard. I changed the method of inspection, therefore, so that when the examination of the samples shows any instance of watering, an inspector is sent to make a herd test, and with such herd test we find no trouble, as far example, in convicting a dairyman selling milk containing 4.1 per cent butter fat, and 8.55 per cent. of solids not fat, whereas his herd test showed an average of 5.1 per cent butter fat, and 8.9 per cent. solids not fat. Before we began such work, it was a common practice, on the part of both dairymen and wholesale dealers, to water or skim their product down to the standards fixed by law. Such skimming and modifying besides robbing the milk of its food value, were also found to be one of the prolific sources of contamination. There are a minority of the dairymen who, it seems, cannot keep from watering, and, in connection with cases against such dairymen, we have insisted upon stiffer fines, and have asked the co-operation of the local health officials to revoke the permits of such dairymen, under authority contained in the municipal ordinances.

2. *Butter.* Many samples of butter were taken to determine the presence of foreign fat and amounts of fat. As a rule we find the law being observed. In several instances hotels were notified to display oleomargarine signs and in several other instances the Internal Revenue authorities were notified of facts showing violations of the Federal laws. The per cent of fat in butter has greatly increased during the last several years.

3. *Meat.* An extensive examination was made of meats obtained from Lexington, Louisville, Covington and other parts of the State, to determine as to whether sulphites, or other preservatives, were being used in sausage. We found a number of such instances, and cases against the dealers are now pending.

4. *Rice.* When the analyses were started, practically all the rice on the market was found to be polished, and to be coated with talc and glucose. The use of talc is altogether prohibited under the law. It adds no food value. The millers have the right to polish the rice and coat it with glucose, provided they so label it. We have insisted that both the polishing and the coating be labeled to the consumer. The polishing robs the rice of two important food elements, namely, calcium phosphate and oil. With the varied diet of adults throughout America, this is not so important as in instances where rice is fed to children, and where the diet is not so varied. We found that the method of analysis for detecting coating and polishing was not satisfactory, and a method was devised by Mr. Mastin, which, so far, has been found to show reliable results. Since the investigation of rice, millers are sending uncoated rice into Kentucky, and a number of grocers are preparing to sell unpolished rice to all consumers interested enough to demand such product.

5. *Dried Fruits.* The greater part of the dried fruits on the market contain sulphur dioxide, both as a bleaching and a preserving agent. There is no controversy over the fact that the sulphur dioxide is an antiseptic or preservative, and for this reason, the Kentucky Act requires the addition of such antiseptic to be made known to the consumer. We have found a number of samples of genuine sun-dried or evaporated products not bleached. It has been found, from a comparison of such products, that the bleaching makes it possible to greatly increase the water content, and, hence, increasing the weight of the dried fruits, as well as to enable the covering

up of spots and other deficiencies in the peach or apricot, are among the trade reasons for bleaching. The Remsen Referee Board have made a report to the Secretary of Agriculture on their investigations, and I am unoffiically informed that their report restricts the use of sulphur dioxide in the bleaching of fruits. It has been contended by the fruit packers that the bleaching is absolutely necessary for the preservation of the dried fruit; but, as stated we have found a number of dried fruits not bleached, and it is signally interesting that a box of silver prunes, for example, are heavily bleached, and contain a large amount of sulphur dioxide, whereas, a box of black prunes are not so bleached, and do not contain sulphur dioxide. If the sulphur dioxide is absolutely necessary to keep the silver prunes, it would also be necessary to keep the black prunes; the point being that the bleaching is employed to make the silver prunes appear lighter in color.

5. *Flour.* The bleaching of flour by nitrous acid gas has been practically stamped out throughout Kentucky. The same is true in the states of North Dakota, Pennsylvania, and probably one or two other states. A large number of samples of flour have been analyzed to determine as to what the mils are doing in this respect. Ever alert, however, when one adulteration is detected and eliminated, to provide a substitute, the method of bleaching with chlorine gas has been substituted. We are in the midst of investigating the facts connected with such bleaching. The establishment of the model bakery has now made it possible to check up the physical effects of bleaching on the flour, and Mr. McFarlin and Mr. Scheppelman have been detailed, and are now at work in the mills using this method of bleaching, to secure samples of various bleachings and various grades of flour bleached, for experimental work. Chlorine gas acts as an *antiseptic,* and the law requires the use of not only a preservative, but an antiseptic, to be stated on the label. From this standpoint, therefore, it will be necessary to require the mills to label the facts as to bleaching with chlorine gas. We are investigating to determine as to what extent the bleaching conceals inferiority, or makes the product appear better or of greater value than it is, and the work in the bakary laboratory will determine the effect of bleaching upon flour.

6. *Liquors.* Prof. La Bach has analyzed a number of "near beers" sent in, under the law, by the county and commonwealth attorneys. A number of whiskies have been analyzed. Results show that the labeling which the regulations of the Federal Government require, through the internal revenue system, is being complied with. Having complete tax control over the manufacture and sale of liquors, from the distillery on through the retail markets, it is evident that the branding should be started right by the Government when the liquors are produced or mixed. This question is gone into more fully in the biennial report now in preparation.

DRUG ANALYSES.

During the year 698 samples of drugs and drug preparations were examined, 264 of which were adulterated or misbranded. The analyses of pharmaceuticals covered 63 different and distinct preparations. In addition to this, 34 distinct and separate patent medicine products were examined. These analyses range from the simplest nature, such as examination of sulphur, to the most important preparations, where substitution, adulteration, or deterioration means life or death in the prescription. The work has also covered a number of physicians' prescriptions. The laboratory has also been called upon to handle nine stomachs sent in for examination as to poisoning. Requests for such examinations come in, as a rule, from commonwealth attorneys, judges of the court and grand juries. Both Professor LaBach and Dr. Brown have collaborated with the A. O. A. C. and other organizations in the standardizing of methods of analyses, and which includes much important work not covered under the number of analyses.

The analytical problems in both the food laboratory and the drug laboratory are many and complex. The chemists do not, all the time, work with such standard methods of analyses as after awhile grow so standard and simple than any individual of average intelligence can pick up and conduct the analysis, but they are required to tackle products and problems which range through the whole domian of the animal and vegetable kingdoms, natural and synthetic, organic and inorganic, and recourse must be had, at all times, to almost every branch of analytical chemistry. As an example of this, Dr. Brown points out in his report that:

> "In the examination of the simplest product or patent, we are often required to have recourse to the best methods of the sugar chemist, the fertilizer chemist, the soil chemist, the soap maker, and the alkaloidal or organic chemist, before suitable methods can be gotten to properly solve the problem."

In starting the drug analytical work a good deal of time and attention was paid to simple pharmaceuticals as an easy means for covering the whole field of manufacturing, wholesale and retail pharmacy throughout Kentucky, and checking up the accuracy and integrity of the pharmacists. A number of cases were prosecuted, including cases against some of our best pharmaceutical houses. It seems at first glance, comparatively unimportant as to whether a lime water, a spirit camphor, a preparation of sulphur, a quinine tablet shows accurate assay. But, as stated, the examination of these products has afforded the most available means for covering the whole ground as accuracy and the checking up of the trade in this respect tend to make them more accurate with respect to all other pharmaceuticals. There is as yet a large amount of work to be done in bringing U. S. P. and N. F. preparations up to the standard specified therein and required under the law.

The work is extending into the drug supplies kept in stock by physicians, consisting of a large variety of pills, tablets, powders, ointments, and so on, used in their practice, and the pharmaceuticals sent direct to the physicians by the supply houses. We have held that the law applies to such sale, and this holding has not yet been questioned by physicians whose stocks have been inspected.

In addition to the work planned for the coming year, the drug laboratory is taking up various nostrums on the market, and is giving special attention to cosmetic preparations, such as hair dyes, hair tonics, hair renewers, shampoos, dandruff cures, pomades, barbers' lotions, tonics, etc.], on sale in barber shops and beauty parlors, face bleaches, enamels, cold creams, peroxide creams, fake beauty preparations. Florida waters, toilet ammonia, chap preparations, depilatories or hair removers, and so on. In some of these we have already found both widespread fraud and dangerous ingredients.

The drug laboratory is planning to help the food laboratory in the examination of medicated soft drinks, a growing evil, the effects of which the food and drug laws should, if possible, be used to check. The drug, food and bacteriological laboratories have planned an examination of medicated and mineral waters, which work has already been started in the bacteriological examination of pops.

On the shelf before the laboratory is the examination of emmenagogue and abortifacient preparations, an examination of medicated soaps, gauzes, plasters, moist and powdered antiseptic dressings. We have found the market filled with a great many fake preparations for the diseases of horses, cows, hogs, sheep, poultry, and samples have already been collected and are in the process of examination. A bulletin giving the results of such examinations for the information of the farming and stock interests of Kentucky would be of great value. The law applies to disinfectants and insecticides, another class of substances in need of investigation and control, including such substances as sheep dips, poultry disinfectants, and insecticides of all kinds.

The drug laboratory has especially found a broad, difficult field, with none too many methods of analyses ready for the work. The method for detecting, especially in the small quantities as used in patents, chloroform, cannabis indica, chloral hydrate, opium, morphine, codeine, derivatives such as heroin, cocaine and cocaine substitutes, ether, alcohol, in presence of ether or chloroform, or both, trional, veronal, sulphonal, chloretone, aspirin, thyroid, aloes and aloin preparations, gentian preparations, cascara preparations, and so on, and so on, are not satisfactory.

The drug laboratory has yet before it the important work of the physiological assay of such substances as digitalis and its preparations, ergot and its preparations, aconite and its preparations, squill and its preparations, anti-diphtheritic serum, anti-tetanic serum, and so on, and for such work it is very much in need of a pharmacologist. Under the heading of recommendations, the recommendations of the drug chemist, in this connection, will be given.

BACTERIOLOGICAL EXAMINATIONS.

From April 1st, 1912, to March 31st, 1913, the work for the year in the bacteriological laboratory covered 2,200 samples. A very large amount of high grade work has been done under the most adverse circumstances, and under circumstances which I am glad to know will never be necessary in the future. The examinations have especially covered milk and cream, 127 samples of water, contamination from bread boxes in grocery stores, tomato pulps and catsups, and some start on meat and bottled waters. The examinations of milk have not only included the total count, but an examination for the bacillus coli, forms of streptococci, and, in several instances, typhoid fever.

While the total count is indicative, *to the sanitarian,* of the purity of milk, we have found it necessary to examine for disease-producing bacteria in order to *convince the dairymen* of the necessity and reliability of the bacteriological examinations, and that the high counts are indicative of contamination and bad handling. In accomplishing this, we have found it necessary to follow up the count of the sample, obtained from the market, with the examination of samples obtained from the dairy and milk depot itself, and a large amount of splendid work, productive of the best results that have yet been accomplished in the milk in Kentucky, has been done and is being put into shape for publication.

All classes of dairies and systems of milk distribution throughout the State, have been plated. The sometimes high and irregular counts in connection with a large dairy at Lexington, Ky., (Elmendorf) were found to be due to *too much handling of the milk, irregularity in sterilization of utensils and bottles,* intervening of too much time between the milk pail and cooling because of *inconvenience of the milk room* and the *irregularity of trolly* for conducting the *warm milk*, occasional *dust contamination* in *the open loft* at the milk room into which the milk was received and dumped, a *too elaborate and difficult of cleaning system of piping and bottling in the milk room.*

The high counts in connection with another dairy supplying a Lexington hospital were found to be due to *a dusty barn floor, failure to wash the cows' udders, straining of the milk in the barn, incomplete sterilization* and *contaminated water.* This dairyman promptly carried out all suggestions and greatly reduced the count. These two instances illustrate the character of work done in connection with a large number of dairies throughout the State.

In the study of the system of producing and shipping market milk at Louisville, we found, besides *lack of sanitary method and equipment in the dairy,* failure of the dairyman to *properly cool, irregularity in sterilizing shipping cans, waits in the sun at shipping depots, lack of refrigeration in shipping and the dumping of good and bad milk at the city milk depot,* to be the chief causes needing correction. A study of the pasteurizing plan showed most of the present method to be *wholly insufficient* and also showed that where the method is efficient and the holding system in use that the *milk is contaminated by too much piping after being pasteurized.* Milk sanitarians know these matters but the work before us has been to *point* out and *convince* the *dairyman* and the *milk trade.* Bacteriological examinations, in connection with practical field inspections, have been found the most direct and efficient means for the work.

Bacteriological studies have already been begun in ice plants, fruit and vegetable factories, and the general retail food market. An ice plant, whose product was condemned by a health department, appealed to us to help find the reason. Samples of the water were taken at all stages of the process and the system of sponge filters just before freezing was found to be the cause of the high counts. Here again, the ice company appealed for an efficient remedy.

In the spring of last year, in connection with a special committee from the Lexington City Board of Health, I went through the milk work being done by the Federal Government with considerable detail. It seemed to me that Dr. Kinyoun, detailed from the U. S. Public Health and Marine Hospital Service, and in charge of the bacteriological work of the Washington City Health Department, was closer to the real heart of the milk problem than any other worker I have yet seen. One method with which he was accomplishing results was the Endo media test for the determination and counting of bacteria of the b. coli group. It was a simple method, and he stated that he had found it reliable. The method had been subjected to some criticism, but, nevertheless, we adopted it for trial, and later, for use. In fifty instances the bronze red color from the Endo media plate has been pinched by Dr. Pinnell, and subjected to all the cultural tests for b. coli, with no single instance of a failure to confirm. The plate, depending upon the time of incubation, is also productive of other bacteria probably allied with bacteria of the b. coli group, and the media also shows bacteria of the typhus group. After one becomes familiar with the technicality of the test, however, the bronze red, unmistakable colony of the b. coli group is easily seen, and counted. The point of such tests is that one can show the dairyman actual evidence and extent of filth in the milk.

The examinations of water have included samples used in the preparation of foods, and to which the law applies as an ingredient in food. In a number of instances people, especially around Lexington, have sent in samples of their drinking water for examination, and, while this is a matter over which the Board of Health has jurisdiction under State law, we have assisted the State Board and the public in the examinations of the samples from the immediate vicinity, especially in cases where it is important to immediately know the source of typhoid.

The laboratory has before it work on soft drinks and similar beverage waters, and the examinations so far show that we are faced in this matter with a widespread insanitary problem. In many cases any kind of water is put into any kind of pop and bottled with little regard for sanitation. For example, a pop bottler was found to be reusing crown corks gathered from dumps and purchased at so much per bucketful from dump and garbage scavengers, and the examination of these corks shows them to be a grave source of contamination.

The laboratory has been asked by a number of our fruit and vegetable firms to take up fruit and vegetable products for examination as to yeast molds and the general count for bacteria, and a portion of the laboratory's time will be devoted to this work during the coming summer.

In organizing the work in the bacteriological laboratory, Dr. Pinnell has checked with the State Bacteriologist, the Bacteriologist for the Milk Commission of Jefferson County, the Bacteriologist for the City of Louisville, the Bacteriolgist for the Board of Health of Lexington, the Bacteriologist for one of the large milk depots in Cincinnati, the Bacteriologist for the Board of Health in Cincinnati, the Bacteriologist for the Cincinnati Medical Milk Commission, and we have had the benefit of cooperation with Dr. Pennington of the U. S. Bureau of Chemistry. That Dr. Pennington and the Cincinnati Bacteriologists are not adopting some of our methods makes me feel that this department of our work is shaping itself into the required efficiency. As stated, samples have been taken in all parts of the State, from the milk supplies of cities large and small. We have gone through the processes of large and small dairies, made a bacteriological study of the method of handling in connection with some of the large milk depots, as, for example, through the National Ice Cream Company's plant from the gathering depot at Taylorsville, through the various processes of pasteurization in Louisville.

In this laboratory also the work not only includes a large number of important problems relating to the sanitary condition and wholesomeness of the State's food supply, but also a constant effort to select and establish accurate methods for bacteriological examinations.

THE EXPERIMENTAL BAKERY.

The Kentucky Food and Drugs Act of 1908 provides wide authority for both sanitary investigations and for studying the problems connected with the production, preparation and sale of food, as they relate to the purposes of the pure food law. A committee from the bakers defeated the bakery inspection act before the same General Assembly which passed the broader pure food law. After investigating the condition of the bake shops throughout Kentucky, under the Act of 1908, I asked the Kentucky Master Bakers' Association to appoint a committee to confer with us with respect to the facts, and to assist in formulating regulations for adoption under the Act; that is, a compilation of practices which contaminate bread or other bakery products, and, therefore, in violation of the Act, together with constructive suggestions for remedying. The bakers appointed such a committee, and they rendered a most valuable service. After the work was done Dr. Scovell approved the plan of asking the committee to designate two of its members to accompany our inspector through the bake shops of the State. They designated Mr. Henry Backmann, formerly an assistant in the fertilizer laboratory at the Station, and who later went into the baking business, and Mr. Scheppelman, a Master Baker, who acted as secretary of the committee. These two men, together with Dr. Pinnell, inspected the bake shops in detail and made recommendations. This first inspection showed about sixty-five per cent. of bake shops to be delinquent in sanitary condition. A detailed report of the inspectors was made to each baker, and this was followed by another inspection which showed about forty per cent. of delinquency. These delinquents were given a personal hearing, for example, in Louisville and Covington. The third inspection discovered thirteen bakers in Louisville and a number in Covington and Newport who had made no effort to comply with the law, and prosecutions were directed. In Louisville, the first baker prosecuted was given a heavy fine and jail sentence, and the others pleaded guilty. The law was very vigorously attacked before the Criminal Division of the Louisville Circuit Court, and we obtained a strong decision both in favor of the law and in favor of the department's construction of the law. Subsequently, four bakers in Louisville were found to be violating the law and were prosecuted. The bakers offered pleas of guilty, and the department being asked to make recommendations as to the amount of the fine, I suggested that the magistrate impose a fine of $50.00 and costs, ten days in jail, to be held up for a period of fifteen days on condition that if the baker had spent the amount of the fine in sanitary methods and equipment in his bake shop, within that period, and had eliminated the conditions complained of, the fine and jail sentence be dismissed. The effect of the experiment was like magic. In all of the instance, several hundred dollars were spent in improvement, and the plants were given a surprising renovation.

We found, in connection with the bakery inspection, as in fact in connection with all the food work, a widespread demand for constructive methods on the part of the Station. In the examination of various materials the bakers constantly put up to us questions that we found ourselves unable to fully answer without investigation of the facts. *Furthermore, we found no place in the scheme of education provided by the State to help a man to become a good baker.* We educate engineers for the railroad and electric companies and mines, we educate lawyers, chemists, teachers, we help the dairyman and the farmer in growing and producing their products, but there is another side, with respect to that vast army of individuals and firms who are engaged in making the products into food, and who, neglected, depend upon the antiseptic and artificial color, short cuts, and have fallen into imitation, substitution, and carelessness, not s much from criminal intent as a flagrant neglect throughout the United States, on the part of the governmental, educational and other agencies that have been rendering such splendid assistance to other classes.

To meet such problems, in connection with the bakers, and in order to have the means to investigate all the facts connected with such questions as the bleaching of flour, for example, we instituted the experimental bakery. The one in charge will not be entirely relieved from the field work. There are a number of bakers in the State who will want to come into the Station for short term work in connection with the bakery, and whose free services can be utilized to a certain extent in the work planned.

The bakers, not only in Kentucky, but all over the United States, and especially the bakers' journals, have welcomed and commented on the establishment of this opportunity for broader investigation and educational work in connection with the enforcement of food control law.

FIELD INSPECTIONS.

Inspections in the field have included not only the taking of samples, but an ever widening effort towards sanitary engineering. Mr. McFarlin has had charge of the field work, in foods, and Mr. Porter, in drugs. Two important points have been emphasized in the past year's work among the grocery stores, namely getting the labels on the wholesale package showing adulteration, passed on to the consumer; and inspections and recommendations to obtain cleaner conditions. Our method was to first circularize the grocers, calling attention to this new line of work under the law, followed by inspection, and then by re-inspection and the report of continued violations for prosecution. A score card, rating the grocers in class A, B, C, and D was devised. A copy of the inspector's report on the grocery is sent to each grocer, with additional suggestions wherever necessary. The general public have taken a widespread interest in this character of inspection. In Bowling Green, for example, an organization among the consumers asked for our later reports, and published the same among themselves and to the general public through the press. A demand for this general sanitary work has increased faster than we can meet it. In Georgetown, Louisville, Covington, Newport, Cynthiana, Middlesboro, Elizabethtown, Russellville, Maysville, Owensboro, Mayfield, and other towns, the consumers have asked us to come down and report upon the sanitary condition of their food supply. Such requests make the work doubly effective, although it is very difficult to systematize public interest and to keep it from breaking into the general plan of inspection.

Mr. McFarlin has had charge of the milk field force during the summer months. He has given special attention to the demands of municipalities for model ordinances, and, upon invitation, has appeared before many of the city councils through the State, to show conditions existing in the municipality, and to call attention to the ordinance needed on the part of the city to supplement the State pure food work. Already most of the grocery stores in the larger cities and towns have been inspected, and, in some instances, reinspected, with respect to the sanitary condition, and the work is now being directed throughout western Kentucky, through the smaller cities and towns. In each, the inspector looks over the stock of goods on the grocer's shelves, taking samples of any products which would require examination; determines as to whether or not the labels on the barrel of vinegar, the box of dried fruit, the bag of rice, the tub of lard substitute, the jar of glucose jelly, are being passed on, by the retailer, to the ultimate purchaser; examines into the grocer's ice box, the cellar and attic, if any foods are stored therein; notes the condition of the floor, the walls, the ceiling, and so on; gives the grocer a short talk with respect to what is needed to comply with the law; notes all the information on the score card, and passes on to the next grocer. It is a large task to sweep clean some 18,000 grocery stores throughout Kentucky, scattered, as they are, over so many small towns and cross-roads.

Dr. Porter has continued a third round of the drug stores throughout the State, not only taking samples of pharmaceuticals, but calling attention to incorrect methods of storing products liable to deterioration, and giving general information as to the isolated druggists. An effort has been made to extend inspections as far as possible in both the food and drug line to all parts of Kentucky. He has continued his efforts towards securing better methods on the part of the pharmacists in the handling of products liable to deterioration. Being a graduate in general and pharmaceutical chemistry, and having had twenty years of experience as a pharmacist, he has been in a position to bring very practical advice to delinquent and careless pharmacists.

Mr. Worthington has been used, to some extent, in grocery store inspection, but principally in field milk work. He has not only collected samples of milk, but has visited a number of dairies to note the sanitary condition and to suggest changes in equipment and method. In a large number of instances he has collected samples of milk for bacteriological examination throughout the processes of the dairy, and in a number of other instances has made herd tests to determine as to whether the suspected sample, collected in the market, was below the standard produced by the dairyman's herd.

Mr. Scheppelman came back from a leave of absence to attend a school of bakery technology, and in the interim between his return and the completion of the experimental bakery, has been conducting an inspection tour throughout the bakeries. He reports a great change in sanitary conditions. Mr. McFarlin and Mr. Scheppelman have conducted special investigations with respect to the conditions attending the delivery of the bread after leaving the bakery. It was found that the wholesale bakers have a method of delivering bread into boxes located outside of the grocery stores; that the bread was delivered into these boxes in the dust of the street; that the boxes themselves, in a majority of instances, were in a filthy condition; and that there was a none too clean method on the part of the grocer in the subsequent handling of the bread. Samples of the dirt in the bread boxes were secured and submitted to a bacteriological and microscopical examination. These data, together with the report of the inspector, were reported to the courts, and prosecutions obtained. The prosecutions have had the effect of causing a widespread interest among both the bakers and the grocers, and an effort on their part which is continued toward better methods for the retail handling of bread.

About five hundred field tests of milk for sediment and fat, and about one hundred other field tests of flour and some other foods have been made by Mr. McFarlin and Mr. Worthington.

MEAT INSPECTIONS.

A survey of the local slaughter-houses throughout Kentucky shows the usual problems of the uninspected and insufficiently equipped slaughtering house conditions. There is, however, a desire on the part of the local butchers for a constructive remedy. That remedy is the municipal abattoir. With the conditions in the State before us, Mr. McFarlin and myself made a study of the municipal abattoir system as it exists in Cleveland, O., Nashville, Tenn., Greenville, Miss., Paris, Texas, and from the literature on meat sanitation showing conditions throughout Europe. We have been advocating the plan of the municipal abattoir, together with a suggested model ordinance, among the Kentucky cities and towns. Results have been slow, although there have been results, as, for example, in connection with Winchester, Hopkinsville, Owensboro, and one or two other places. The interest, however, is growing, and we feel encouraged to the belief that it will not be many years until the municipal abattoir, as the only effective remedy for meat inspection, is adopted throughout the State. A bulletin has been prepared, which is referred to under the head of administrative work.

MILK INSPECTION.

In 1905 the Criminal Division of the Jefferson County Court held it the duty of the administrators of the pure food law to look after the sanitary condition of the State's milk. At that time, also a representative from the City Health Department of Louisville and a committee from the Jefferson County Medical Society, came to Lexington and asked us to undertake the abolishment of swill dairies in and around Louisville, and undertake the establishment of clean milk. For fifteen years, with a specific act on the statutes of the State, the filthy dairies had gone on unhampered. Associations of dairymen in Shelby county and one or two other districts had contributed money to employ private counsel, without avail. The Division undertook, first, a study of these dairies, and, finally, in December of 1906 and January of 1907, a hundred or more dairymen were heavily fined and put under jail sentence. The jail sentences were suspended until April of 1907, and at that time the revolution was accomplished, and the swill dairy, as a general rule, abolished. Following this inspections were made throughout the milk depots and ice boxes of the retail grocery stores, and some ninety successfully prosecuted. In Louisville to-day the ice boxes are still clean in memory of that prosecution.

Our first means for inspection was a blank form wherein the inspector noted the items of equipment and method in the dairy. About that time, Dr. Woodward of the Washington City Health Department, suggested a score including the items of method and equipment necessary in the dairy, and this suggestion, with some changes, was finally promulgated as a satisfactory means for inspection by the United States Department of Agriculture. After tramping through the Kentucky dairies with our own blank, we found that the items of equipment and method on the score completely tallied with the items of equipment and method which, our experience taught, were necessary in the dairy. Following this a large number of the dairies throughout Kentucky were scored. With the appointment of Dr. Healy as Bacteriologist for the Food and Drug Division, in the spring of 1910, and, later, with the appointment of Dr. Pinnell, after Dr. Healy's going entirely into research work, we have had the accurate means of bacteriological investigation to supplement the cruder tools of former days.

One point on which we have been working is the relation of the Government's inspection score card to the bacteriological count. We have found, as a result, that a careful inspector can list the items of method and equipment on the score card within a score which does not exceed 80; but it is impossible for the inspector's eye and ear to accurately record the daily method in the dairy, for the reason that it is impossible to visit each dairy at the time of the washing of the utensils, and at the time of milking. We have also found, in this connection, that where it is possible to visit the dairy at such periods, it is impossible without bacteriology to have the score accurate with respect to all details. For example, in a study of the certified dairies in and around Louisville on the score card versus the bacteriological count, we found dairies to which we had given the higher score showing the higher count, and the dairies to which we had given the lower score, showing the lower count. One model dairy in Lexington which I scored personally, and gave a score of 99, we found it necessary to cut to 89 1-2 after making a bacteriological survey. On the first score the dairy was given perfect in the matter of sterilization. Bacteriological examination showed that the equipment provided for sterilization was not being efficiently used. The importance of this investigation was because of the fact that the score card was being adopted by municipalities throughout Kentucky and elsewhere in the United States, and because of the fact that people were buying milk from a dairy scoring, say 92, in preference to a dairy scoring 85, for example when as a matter of fact, the dairy scoring 85 was producing a lower bacterial count. The facts in connection with this investigation are being included in the milk report referred to elsewhere.

Another important point is the study of actual omissions in equipment and method among the dairies and milk depots responsible for milk contamination. A large amount of work has been done in this line, and to the extent that it is now possible for us to send circulars to the dairymen calling special attention to the important items to be watched. This work has had many interesting phases and much valuable information has been accumulated for publication as well as many substantial results among the dairies already accomplished.

After seven years of pure milk work in the State, we are in a position to show a saving to Kentucky consumers of about $500,000 annually, because of the amount of water and skim milk eliminated from their milk. There has been established, in connection with the large majority of the cities and towns throughout the State, at least one, and, in some instances, a majority of the dairies which can be depended upon as a safe source of milk for infant feeding. We have helped in the establishment of certified dairies, especially around Louisville. The results of these certified dairies, as well as the results of the pure milk work in other parts of the State, are surely and indisputably a marked decrease in the rate of infant mortality.

Many of the investigators who have tackled the milk work come to the conclusion that pasteurization is the only remedy. I have believed, and have a growing belief, that with the proper method of inspection and the continuance of the pure milk work along proper and vigorous lines, it will be possible in Kentucky, within the next ten years, to deliver into every city and town, be it large or small, an adequate supply of clean, wholesome, uncooked milk; bottled, fresh from the cow, at a clean dairy, and delivered in ice to the consuming public. I realize that there are many obstacles yet to be overcome, especially in connection with the milk supply in Louisville; but we have found that it is not so much the impracticability of this accomplishment as the fact that the milk depots have been making a large profit out of standardizing and skimming the milk received from the dairymen. And, when complete end is put to this the milk depots' greatest profit will be no longer in standardizing and skimming, but in supplying the demand of the consumer for clean milk. When the attention of the distributing trade has been veered to this point of view, the gathering of the bottled milk from the dairy into refrigerator cars, instead of into cans, will be already a matter of detail, and we intend to influence it out of the long wasteful methods of handling that, are termed, in other words, the long and dangerous route of milk distribution.

COLD STORAGE.

We have inspected all of the cold storage plants throughout Kentucky. We have found very little abuse within our own storage plants. In one or two instances we have found unsanitary conditions, as, for example, in Paducah, where the facts were reported to the local authorities for correction. We have gathered data from our storage industries showing the amount of food stored, the temperature in connection with each food, and all this material will make it possible for us to advise in some instances the substitution of advanced methods of storage for those already at hand. A survey had also been made with respect to the handling of storage foods throughout the retail market, all of which presents a problem needing to be dealt with. Important is the sanitary condition of the food before it is delivered into storage.

ADMINISTRATIVE WORK.

The administrative work of the Division has included the general direction of the field work, the direction of the laboratory work towards the problems at hand, the handling of the correspondence, conducting the hearings under the law, and the writer has given special attention during the past year to pure milk work and the municipal abattoir movement. The work of inspection and analysis pours a constant stream of facts showing adulteration or misbranding for the office to deal with and eliminate. The Act of 1908 provides that, before prosecution for the first offense, the manufacturer and dealer shall receive a notice and be given an opportunity for a hearing. The Kentucky Act has been productive of much good. These hearings greatly increase the work of the office, but, on the other hand, they give us an opportunity to go direct to the source of the trouble, and often opportunity to eliminate it without expensive litigation. We have to our credit many results during the past several years accomplished by these conferences with the trade. For example, the Duffy Malt Whiskey concern have been brought to eliminate much of the objectionable statements on their labels and advertising; the Sterling Remedy Company, manufacturing "Cascarets" and the "Dr. Price's Favorite Prescription" people have changed their color labels; and so on through a long list of examples that can be cited. There have been, during the year 1912, 2,880 hearings conducted, and the written correspondence in connection with the work has extended to 7,905 pages in the files of the letter books. Numerous circulars have been sent to dairymen, druggists, grocers, and so on. There have been 252 cases reported, and 94 successfully prosecuted, the others still pending; 74 Lexington cases have not yet come up for action. Miss Liston has had general charge of the office work. The task of keeping and systematizing the ever growing files; and keeping in very efficient touch with the growing details of the work, has been undertaken in addition to the stenographic work accomplished. Miss Ginchio's place has been excellently filled by Miss Page.

There has been a growing demand from the communities throughout Kentucky for lectures and reports on matters relating to pure food. I have found it profitable to go into the dairy, bakery, grocery and other fields, as much as possible, myself, in order to keep in fresh touch with the needs of the work.

Abattoir Bulletin. In connection with Mr. McFarlin I have prepared a bulletin on the municipal abattoir covering the following subjects:

(a) State inspections and results.

(b) Systems of meat inspection.

(c) The municipal abattoir under the State laws.

(d) Offal wastes.

(e) German friebank system.

(f) Regulations adopted by the joint committee from the Board of Health and the Food and Drug Division of the Experiment Station.

(g) Plans of the municipal abattoirs in Nashville, Tenn., Paris, Texas, Greenville, Miss., and the model that has recently been adopted for Canadian cities.

(h) Two proposed plans for a Kentucky model abattoir, one for cities the size of Winchester; another for cities the size of Lexington or Paducah.

(i) Proper equipment for retail meat markets.

(j) A suggested plan for organizing the municipal abattoir, and a proposed model ordinance for its control.

The bulletin includes estimated costs and other details, and a special effort has been made to make the suggestions practical.

Milk Bulletin. Since publishing the rather crude report on Louisville's milk supply, it was my purpose to follow this up with a report on other milk supplies of Kentucky, but this purpose was not followed up because of a leave of absence with the national pure food work in Washington. After resuming charge of the work in 1909, the State milk surveys were continued, and, as stated above, since 1910 we now have two surveys, one showing the general count in connection with the score of the dairy, and one showing the general count in connection with the b. coli group of bacteria. A bulletin on this subject is being prepared in conection with the other work of the Division, covering

(a) Results of inspections and examinations under the State law.

(b) Chemical study of Kentucky milk.

(c) A bacteriological study of certified dairies in Kentucky.

(d) A bacteriological study of market milk dairies.

(e) A bacteriological study of milk depots including methods of pasteurization.

(f) The relation of high counts to wholesomeness in infant feeding.

(g) The relation of the bacteriological count to the Government score card.

(h) The chief source of milk contamination in connection with its production and distribution, as shown from bacteriological studies.

(i) Proper location, construction, equipment, and water supply of the dairy from the standpoint of sanitary milk.

(j) A suggested plan for the construction of a dairy and milk room.

(k) A suggested model milk inspection ordinance for cities and towns throughout Kentucky, together with other matter of similar character.

Pure Food Primer. The Kentucky Federation of Woman's Clubs, through their Pure Food Committee, have asked for a "Pure Food Primer" for distribution among the different clubs throughout Kentucky and the public schools of the State. Some work has already been done on this publication.

We have now ready for publication all of the instances of adulteration and misbranding during the past two years for inclusion in the report.

Dr. Brown has in preparation a bulletin on some of the lines of work mentioned above.

Cooperation of State and Local Health Departments. It has been our constant effort to establish close cooperation with the State Board of Health and with the local city and county health departments. Much of the food sanitary work must finally be done by the local health department. Instead, therefore, of assuming that such matters can be handled by the State Pure Food work we have directed our efforts towards pointing out the conditions, the remedy, and assisting the local health departments, whenever requested, to establish the necessary local ordinances and equipment for the work.

A request from the Mayor of Lexington to act with Dr. Bullock and others in the reorganization of the Lexington city health work gave exceptional opportunity for such cooperation, and to see the remedies which our experience suggests in connection with the local food supply carried into effect.

A city bacteriological laboratory has been established, and the Station was asked to recommend someone for the work. We have succeeded in obtaining an appropriation for a trained meat and milk inspector. The Commission asked the Board of Health for recommendations, and the Board in turn placed in my hands the selection of the proper man. It gave opportunity to recommend the best trained person available, namely, Dr. Rice, a graduate in chemistry from Georgetown College, and a graduate from the Iowa State College in Dairy and Venterinary Science, and who has already had successful experience in connection with both the Kentucky and the Iowa Stations during the summer vacations in field work.

We have also cooperated with the City Board of Health and Commission in the drafting of a model health code for Lexington. This work has required a wide range and close study, and has been one of the important and difficult tasks during the past year. With this ordinance, with the city bacteriologist, with the meat and milk inspector and with an invitation to help organize and direct their activities, opportunity is presented for establishing a good sanitary control of the city's food supply. The results of this work will be available as a source of information for all the other cities and towns throughout Kentucky.

In conclusion I desire to record my especial appreciation of the active co-operation of practically all of our county secretaries in the routine work of the year, which has been carried on under your direction. Next to the Councilors, who are the *sine qua non* of our system, the county secretary is the most important link in the whole chain. To him fall the arduous duties of making and filling the program and the society is a strong or a weak one in exact proportion to the value of the county secretary. To your officers, and to the whole membership and to my very efficient stenographer, Miss Clyde Howell, I desire to extend my gratitude for the assistance and courtesy which have made the arduous duties of my position unusually pleasant during the past year.

Respectfully submitted,
A. T. McCormack, Secretary.

DR. SAMBON INVITED

Dr. Louis W. Sambon, of London, England, one of the greatest of living authorities on Pellagra, who is now in this country, has been invited to address the Association on that subject Tuesday evening.

REPORT OF BUSINESS MANAGER.

The following statistics will show what your JOURNAL has done in the last two years:

	1912	1913
Number of pages of reading matter	1126	996
Number of advertising pages	506	508
Special Articles	5	4
Official Announcements	46	37
Special Society Reports	3	6
Index	8	7
Book Reviews	36	54
Editorials	94	89
Scientific Editorials	51	14
Original Articles	320	269
Illustrations	26	67
Forum	8	8
Addresses	2	4
Advertisers	116	125

Reference to the report of the Council will show the actual cost to the Association of printing the JOURNALS

	1910	1911	1912	1913
Net Cost	$000 00	$000 00	$303 95	$000 00
Net Profit	179 39	145 00	000 00	461 11

By referring to the report of the Council it will be seen that the JOURNAL has been published without one dollar of cost to members, but at a small net profit, and this is true of no other state journal. In going over the statistics of these journals of similar size and form some were found to cost their Association from $5000.00 to $7000.00 exclusive of the income from their advertisers.

It is with special pride we note that the entire cost of printing, distribution and expenses incident thereto have been entirely paid from funds received from our advertisers, subscription and sale of JOURNALS. Our chief income has been from our advertising pages and this gratifying financial statement would not be possible but for the recognition by county societies and membership generally of their interest in the success of this feature of the JOURNAL. If the JOURNAL in the future is to be conducted without expense to the Association it is important that the members read what is offered in our advertising columns and wherever and as often as possible consign their orders to our advertisers.

COUNTY SECRETARIES' ASSOCIATION.

The County Secretaries' Association was organized in 1909. Very interesting and instructive meetings have been held on Monday evening preceeding the general session. Letters are sent each year urging all secretaries to be present. Under the able guidance of the President, Dr. F. A. Stine, Newport, this Association has proved a great benefit to the secretaries and an instructive program has been aranged for this meeting.

OUR EXHIBITORS.

An active campaign has been made to secure exhibitors for this meeting. A brochure containing the floor plan, price list and description of the place of meeting has been mailed to every reputable manufacturing firm in America, with the result that we have secured a splendid exhibit. The Council offers the price of space used as a prize to the exhibit which is of the highest scientific and educational value to the general practitioners in attendance.

Patronage extended to our exhibitors means that other firms will be more willing to take space. To secure these exhibitors it is necessary that they should be recipient of your business.

THE INDEX.

The January JOURNAL contains a complete index to Volume X. The original articles are indexed under the subject heading and cross indexed under the most important word of the heading used in the JOURNAL. County society reports, book reviews, official announcements and the names of all the physicians who have contributed articles or discussed subjects in their county society are listed.

HOW EACH COUNTY HAS HELPED THE JOURNAL.

As a matter of interest to the entire profession, the following is published to show what each county society did for the JOURNAL in 1912 and again in 1913.

	MINUTES		ORIGINAL ARTICLES	
COUNTY	1912	1913	1912	1913
Adair	2	3	2	4
Allen	..	1	..	..
Anderson	..	..	..	1
Ballard	3	1	2	4
Barren	6	3	2	5
Bath	..	..	..	1
Boone	..	..	..	..
Bell	5	2	5	7
Bourbon	2	2	1	1
Boyd	1	..	2	3
Boyle	..	..	2	..
Bracken	..	..	..	..
Breathitt	..	..	..	..
Breckinridge	..	..	..	..
Bullitt	..	..	..	1
Butler	..	..	..	..
Caldwell	..	..	..	1
Calloway	3	1	..	2
Campbell-Kenton	2	2	2	7
Carlisle	4	4	8	5
Carroll	..	..	..	..
Carter	2	1	..	..
Casey	..	..	1	1
Christian	4	5	3	1
Clinton	..	..	..	..
Clark	1	..	3	2
Clay	..	..	..	..
Crittenden	..	6	..	4
Cumberland	..	..	..	..
Daviess	1	3	11	12
Elliott	..	..	..	..
Estill	..	..	..	..
Fayette	1	..	9	7
Fleming	3	1	1	..
Floyd	..	..	..	..
Franklin	2	2	..	1
Fulton	..	..	..	..
Gallatin	..	..	..	1
Garrard	..	..	..	2
Grant	..	1	..	1
Graves	1	1	..	..
Grayson	..	..	..	..
Green	..	..	..	..
Hardin	..	1	..	..
Harrison	..	4	2	1
Hart	3	3	2	1
Henderson	3	2	12	3
Henry	1	..	5	1
Hickman	..	..	..	1
Hopkins	..	..	4	..
Jefferson	8	21	136	155
Jessamine	..	..	..	..
Johnson	..	..	..	..

Knox	1	2	2	2
Laurel	1	..	..	1
Larue	..	..	..	..
Lee	..	..	..	..
Lincoln	1	..	1	1
Logan	1	1	2	2
Lyon	2	..	1	1
McCracken	..	..	..	1
McLean	2	2	..	..
Madison	..	..	..	..
Marion	..	..	..	..
Marshall	..	..	1	..
Mercer	2	..	1	1
Mason	1	1	1	..
Meade	..	..	1	..
Metcalfe		..	1	1
Magoffin	..	..	1	1
Monroe	..	1	..	..
Montgomery	2	..	..	1
..uldraugh Hill		2		9
Nelson	1	2	4	3
Ohio	2	..	2	..
Oldham	1	5	4	..
Owen	..	1	5	..
Owsley	..	..	..	..
Pendleton	6	11	11	3
Pike	..	1	2	..
Pulaski	1	..	1	..
Rowan	1	1	1	..
Russell	2	1	..	..
Scott	..	5	..	..
Shelby	..	3	..	..
Simpson	2	1	5	5
Spencer	..	..	1	..
Taylor	0	1	1	2
Todd	..	..	..	..
Trigg	..	..	..	..
Trimble	..	..	1	..
Union	..	..	..	..
Warren	7	8	3	8
Washington	4	1	4	2
Wayne	..	1	..	1
Whitley	2	2	4	1
Wolfe	..	1	1	..
Woodford	..	..	..	..
TOTAL	103	124	277	-82

Every article, county society report and all contributions to the JOURNAL has been published. The scientific value of the JOURNAL depends upon what the physicians make it. If you want a bigger, better JOURNAL, work hard and write better papers and send your reports to the JOURNAL.

Respectfully submitted,
LILLIAN H. SOUTH.

Leishman Anemia in Italy.—The disease develops mostly in the early spring and only two of Caronia's sixty-seven patients recovered. The duration is generally from three to six months or a little longer; in exceptional cases the disease may drag along for years. After tuberculosis, diphtheria and the eruptive diseases, this leishmaniosis is the most prevalent disease in southern Italy. Families living in rural districts or having much ti do with domestic animals are specially subjected to it: in only one of the total sixty-seven was the family city-bred. Direct contagion could be incriminated in most of the cases, the virus probably being transmitted by means of bedbugs. But in a few instances there did not seem to be any possibility for direct contagion, and there is much to sustain the view that dogs and dog fleas are responsible for its transmission. Franchini has recently found the parasites in gnats.

ORIGINAL ARTICLES

THE GENERAL DEMEANOR OF THE DOCTOR.*

By D. G. SIMMONS, Adairville.

After a continuous observation in the practice of medicine for a period of fifty-two years, it has occurred to me that something profitable might be said on the subject of the general demeanor of the physician with reference to himself, his relations to his patients, to his fellow practitioners and to society generally. This seems the more appropriate in view of the fact that most of the members of this society are comparatively young men, with the faculty of adaptability still active.

Of course the paramount consideration of the doctor should be to cure his patients with the least amount of suffering and loss of time, but before he can do that he must have some patients, and the proper conduct and manners necessary to inspire that respect and esteem in his community which will most quickly and effectually invite and retain patronage, will be the main purpose of this paper, together with some allusion to his relations to his patients, to his fellow practitioners and to society.

THE DOCTOR HIMSELF.

It should go without the saying that the doctor should be a gentleman, in the American sense of that word—that is, he should be gentle, modest and kindly, and considerate of the comfort and welfare of others in his manners to all, the old and the young, the rich and the poor alike; that he should be strictly honest and upright in all his dealings, and that he should lead that clean and wholesome life which will demand the respect of all.

The doctor should be among the leaders in all enterprises affecting the best interests of the community. This is naturally and reasonably expected of him.

Every doctor should be neatly and tastefully dressed. Tidiness and taste in dress goes quite a long way in commanding respect. "Costly thy habit as thy purse can buy. But not expressed in fancy; rich, not gaudy. For the apparel oft proclaims the man."

Above all, the body linen should be immaculate at all times. The hands should be kept scrupulously clean, and the nails kept properly trimmed and strictly aseptic as possible. It would seem that these latter suggestions should not be necessary, but we have all perhaps seen some doctors' linen, hands and nails in such condition as to warrant these suggestions.

The doctor should cultivate a uniform politeness to all persons and on all occasions.

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*Read before the Logan County Medical Society.

Some one aptly defined politeness as "Kindness expressed in action." "True politeness is a seed that costs nothing, can be planted anywhere, and that always bears good fruit." "On the other hand, a cold, cheerless manner towards patients, an isolation of oneself from them socially, and failure to recognize would-be-friends on the streets and elsewhere, destroy all warmth towards a doctor, and usually cause their possessor to fail to inspire faith. The reputation of being 'a very nice man' is even more potent with many than his skill. To be both affable and skillful makes a very strong combination."

A doctor should have a cool and deliberate head, a cultivated intellect, and refined sensibility. He should not indulge in frivolity or levity, and above all things avoid coarseness and indelicacy. Among the positive traits he should labor to cultivate a cheerful and happy manner. A bright, sunny and pleasant look, an encouraging word, a general demeanor that brings a halo, a gleam of sunshine along with it, and that induces the patient to look forward to his coming with pleasant anticipations. The doctor that can do this without descending into frivolity or coarseness, finds a welcome in every household, and has a fat inheritance, other things being equal.

THE DOCTOR'S DUTY TO OTHER DOCTORS.

This subject is so elaborate in the code of ethics, with which every doctor is supposed to be familiar, that it is only necessary to give it a passing notice. A doctor's duty to other doctors is crystalized in the Golden Rule, "As ye would that others should do unto you, do ye even so unto them." This is not only just and charitable, but, to take a selfish view of it, it is politic. We may not expect to violate this rule without paying for it far more than we receive. If we act unjustly towards our medical friends, we may reasonably expect them not only to take occasion to practice reprisals, but to labor to make such occasions for it. "Whatsoever a man soweth, that shall he also reap." If we sow thistles we may expect to reap thorns. Sometimes it may be a nice question to determine what is just towards the other doctor—if so, then we should show liberality by giving him the benefit of the doubt. There is a degree of jealousy in the medical profession which is very unfortunate, and entirely without excuse. No one may expect to give perfect satisfaction to all patrons, or to be preferred by all, and it is better that it should be so.

THE DOCTOR'S DUTY TOWARDS SOCIETY.

There are various characteristics which are desired by all, but are not alike attainable by all, as, for instance, brilliance of intellect, wit, personal good looks, etc., but there is one trait far more important than any of these, which is within the reach of all, viz.: a character far inflexible honesty and integrity. Nothing will take the place of this, and there is no adequate excuse for every doctor not being in possession of it. If a doctor cannot make an honest and independent living by his profession, with the observance of proper economy, he has evidently entered upon the wrong vocation, and the sooner he abandons it the better.. While society expects him to pay all just demands and live decently, without unnecessary display, they at the same time expect him to charge living fees for his services, and are reasonable enough to expect him to collect his fees within a reasonable time to enable him to maintain his business character. This is the attitude of a majority of the people, while, of course, there are some exceptions—some who will delay payment as long as possible; but this applies equally to other vocations. Fifty-two years' observation justifies me in the conclusion that the majority of the people do not object to paying reasonable fees to members of the medical profession, and to the further conclusion that if the doctor doesn't collect his fees within a reasonable time, it is owing to a negligence on his part in presenting his claims before the nature and extent of his services have become obscure in the memory of his patrons.

The public not only looks to the doctor for help in time of sickness and suffering, for which they expect to pay him, but they also look to him for examples of cultivation, refinement and correct ideas in the leading topics of the day. They expect him to be familiar with literature, biography and history, and to have more than a speaking acquaintance with the sciences, art, politics and religion. This is a reasonable demand from the very nature of our profession, and is a strong argument in favor of a much higher literary education as a preliminary prerequisite before admission to our medical colleges, as well as a much more extended course of medical instruction than was required some years ago

THE DOCTOR'S DUTY TOWARDS HIMSELF.

In addition to being a cultivated and refined gentleman and a conscientious, attentive and skillful physician, it is the duty of doctors to learn and practice correct habits of business, in order that they may live honest and respected lives, and reap the financial rewards for their labor. It is not only due the doctor himself, but it is, if possible, still more just and proper towards the partner of his bosom, who has struggled as hard for his success as he himself, God bless her, and who has shared all his sorrows and disappointments, and cheered him all along the path of duty. She richly deserves a pension which will place her above want and the sordid cares of life. For the doctor to demand and obtain the financial consideration for his labors is not by any means derogatory to the dignity of his profession. A great many doctors are proverbially poor business men, though there is as little excuse for it as there is in any other vocation. This financial feature should receive such portion of his time and attention as is necessary to render it effectual, then the best welfare of his patients should absorb the greatest balance of his time.

Every doctor should not only be a member of his county medical society, but he should be active in its deliberations. Whether he wishes to do so or not, he should force himself to prepare papers to be read before the society. Even if the paper should not be up to the standard of his ambition, that is the only way to bring subsequent papers up to that standard, and the careful preparation of a paper on any subject is always beneficial to the writer, even if it should never be read to any society. The writers of carefully prepared papers get more benefit from them than do many of his auditors or readers.

The doctor should be deliberate about assuming the treatment of any case, but having assumed it he should give it his best thought and attention, and conduct it to its ultimate conclusion. Some persons can't pay the doctor for his services, some others who could pay refuse to do so, but if the doctor takes the case he must do the best he can for it for humanity's sake as well as for his own. Such cases, well cared for, are bread cast upon the waters, and will probably return after many days. I will emphasize this point by citing a case in my early practice.

A very poor man with (of course) a large and helpless family, was down with a case of delirium tremens. Having myself but recently settled in the neighborhood, I was called. The poor devil suffered inexpressible agonies of fear and illusions, saw all sorts of sights, heard all sorts of sounds, and wouldn't allow me out of his sight for three days and nights. There were but two beds in the house of one room, and the patient pre-empted one, while the balance of us did the best we could with the other one. The cooking utensils and tableware consisted of one skillet, one knife and fork, the latter with only one tine, one tin teaspoon and one tin cup and one tin plate. The unvarying menu was corn bread, fried pork, ginger tea and sorghum molasses. All had to be cooked in that skillet, one at a time. I can't say I relished my meals, but I survived.

I don't think I helped him much, as I look back at the case, but I did the best I could, and sympathized with his sufferings. But he appreciated my services and attentions just as much as if they were ever so effectual, and upon recovery he was one of the most grateful patients I ever had.

Now, strange to relate, that was one of the most valuable pieces of work, viewed from a financial standpoint, I ever did. He eventually paid every dollar of the bill, and, drunkard as he was, he was of material assistance to me in establishing myself in a good practice. Such beneficial results of apparently gratuitous cases are rarely seen, it is true, but one can never tell, and it was the proper thing to do in any event.

A facility in adapting oneself to all classes is a very useful and important quality, and one in which most physicians are sadly deficient. The doctor should labor assiduously to cultivate an interest in any subject under consideration, no matter with whom—with some temperaments it is a difficult thing to do.

Along with all these do's there are some don'ts, and among them I would like to say, *don't boast!* Be circumspect in calling attention to the number of cases you have, of your wonderful cures, or of the surprisingly large amount of your collections. If you are doing skillful work and are prospering in your profession, don't be uneasy about its not being known. It is sure to be found out on you, and the less you say about it the more you will be respected. Lord Polonius' advice to Laertes should be in large type over our desks, viz.:

"This above all—to thine own self be true, and it follows as the night the day, thou cans't not be false to any man."

Alimentary Aberrations.—Summarizing his two papers Brown says we have to-day in the alimentary application of Roentgen-rays, as dependable a method of aiding our diagnostic knowledge as has been given us for many years. Nevertheless, in this method, we have but a factor making for our diagnostic success in any given case. The practitioner of the future is in danger, through just such helpful agents as these, of becoming a clinical scientist instead of a scientific clinician. His primary mission is still entered on at the bedside, and at the bedside he has little else to aid him than had his predecessors of the earlier days—his five wits. Let him, therefore, use them, and then he shall be able to stretch forth his hand toward the laboratory, not beseechingly, as one who is helpless, but with the authority born of knowledge, as becomes a master.—Journal A. M. A.

FALLACY OF THE THEORY OF MATERNAL IMPRESSIONS.*

By T. A. Frazer, Marion.

Maternal impression is a superstition that is as old as history. This fallacy has been handed down from generation to generation, through the annals of time to this good day, with but few who have the boldness to dispute it. Physicians and laity alike believe it is almost sacred, and many times they sit by the bedside of the parturient woman with bated breath, and whisper the profound knowledge they possess upon the subject of the maternal impression, or the "marked" baby. Now, I wish to say in the beginning that it is time for the medical profession to cast aside the yoke of superstition and strike boldly for the truth; and, it matters not what precedents we smash, just as long as these precedents are broken with the truth.

What does the rank and file of the medical profession think of the physician who denies that yellow fever and malarial fever are transmitted by the mosquito? Or that vaccination will not prevent small-pox? Or that pus is produced by a microorganism? Or that tuberculosis is an infectious disease? Yet all these facts could not have been proven if physicians had been content to run along in the same old ruts.

No intelligent physician doubts that the nervous and mental organization of the mother may influence the nutrition and development of the foetus in utero. It sometimes interrupts gestation; but that is no evidence that it may produce a certain kind of character of "mark." This superstition is worldwide, and is co-extensive with all the inhabited world; yet, is that evidence of its truth? Undoubted indications of its existence abound in South Africa, China, South America, Lapland, Europe, among the savages of the Philippine Islands, and here in our own boasted land of intelligence and refinement.

There is no more reason for the Medical profession accepting this threadbare theory than in accepting the negro's theory of the grave-yard rabbit foot. The theory was at first only used to explain the appearance naevi; later on, all malformations were thus accounted for.

In ancient Greece it was believed that impressions were made on the pregnant woman by objects of her admiration. Therefore, the law of Lycurgus compelled Spartan wives to look upon pictures and statues which represented the strong and beautiful, in the full belief that the babe, when born, would be strong and beautiful. But from the Fifteenth Century to the present time, it has been believed that the maternal impression is made by something that strikes the mother with disgust or horror, and thereby accounts for all manner of monstrosities and physical defects.

This theory went unchallengea until 1727, when Blondel of England, wrote a volume in which he vigorously challenged the theory, and produced such an impression upon the profession that similar books were written in Scotland, France, Germany, Russia and Italy. It seems that these writers were soon forgotten, and the theory remained in *statu quo* until the Nineteenth Century. During this century many able men wrote on this subject and displayed various degrees of belief in the theory of maternal impressions. During the Nineteenth Century nearly all the teratologists were against the theory, while the profession in general seemed to have implicit faith in its truth. Nearly all American writers accept this theory without question, and, therefore, the medical student gets his supply of superstition from what he deems the fountain head of medical lore; therefore, when such men as Fordyce Barker, S. C. Busey, Wm. Goodell, M. D. Mann and others of prominence advocate this theory is it any wonder that the profession in general cling to this fallacy with such tenacity?

It is a curious fact that men who can write lucid, scientific chapters on the development of the embryo and fetus, can defend such a ridiculous theory, or rather superstition, as maternal impressions. Every text book issued by an American author, except one, and possibly two, in the last five years, upon the subject of obstetrics, combats this theory; yet, on the contrary, it is upheld by them by referring to some physical mark, or defect, and asserting that it is more than a coincidence.

In the American Text Book on Obstetrics, 1903 edition, Prof. Davis, of Philadelphia, says, "There is certainly more than mere coincidence in the fact of fright and shock and the subsequent malformation or marking of the fetus." He refers to the elephant man of England, the turtle man of the United States, and other evidence of this anomaly.

In the same work Dr. Norris, of Philadelphia, says, "There is some unknown influence which, in rare instances, does result in marking and malformation of the child."

W. A. N. Dorland, of Philadelphia, also advises the pregnant woman to avoid unpleasant scenes, that her babe may be a model of perfection.

B. C. Hirst, of Philadelphia, in the latest edition of his text-book of obstetrics, says

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*Read before the Crittenden County Medical Society.

"maternal impressions may affect the embryo or fetus," and, in support of the theory he cites one of his patients who, at six week's pregnancy, had her ear pulled by her outraged husband, and the baby, when born, had a triangular niche in its ear.

Now, from the citations above, one might conclude that staid old Philadelphia was the home of all prominent authors who hold to the superstition and witchcraft of the past; but not so, for J. E. Edgar, of New York, in his practice of obstetrics, asserts that congenital deformities are too numerous to be passed as coincidences.

Charles Jewett, of Brooklyn, also says that there can be no doubt that the mental state ot the expectant woman will affect the physical, mental, and moral character of the child.

Now, to show that these authors are trying to cater to established precedents and popular delusions, I wish to quote from that eminent obstetrician who found the niche in the baby's ear, and see if it sounds like the author of that splendid text-book; I refer to B. C. Hirst, who says over his signature that the "Maternal impression theory is a superstition," as an "absurd explanation of a former age;" "an irrational attempt to explain anomalies of organization, which occur in man."

Dr. DeLee, of Chicago, and Dr. Joseph B. Cooke, of New York, completely refute this superstition in their text book for nurses. But, unfortunately, but few physicians read these books.

It is not our purpose in this paper to explain the "why" or the "wherefore" of monstrosities; but our object is to get the members of this society to investigate for themselves, to lay aside superstition, to repudiate the time-honored teaching of the old granny woman who does not know any better, and who will refer you to all the physicians they have been associated with in the past, to prove the correctness of their hobby; men of the medical profession. I want to say to you that it is time for us to realize that we should be educators; that it is as much a part of our duty to give the people who furnish us bread and butter, advice that will mitigate suffering, the sufferings mentally as well as physically.

It thrills my very soul with sadness to find a parturient woman in mental agony; her heart filled with fear, and the image of monstrosities constantly before her eyes, with the full belief that her babe is horribly marked by some unpleasant scene, fright or injury that has occurred during gestation; and for this condition of affairs, the medical profession, I am sorry to say, is responsible. The physicians well know from their own experience that this theory is a fake, a fallacy, a superstition handed down from generation to generation. What physician among us has ever seen a baby born with a mark its mother expected? Think of the scenes and the horrors through which the average mother passes during her nine months of pregnancy. Then, if this theory is true, how can the average babe escape the side-show among snakes and undeveloped animals; or, if this theory were true, monstrosities would be so plentiful that they would not attract attention on the street. Suppose this theory to be true, then you must apply it to the calf with two heads, the pig with five legs, or cat with two tails; then think of the chicken with four legs; the impression must have been made on the hen before she laid the egg. Then we look at the vegetable kingdom, and we see all sorts of malformations brought about during its growth and development; and, I verily believe that we might as well undertake to explain the mal-formations in the vegetable growths by maternal impressions as that of animal development.

Of course every physician who has had much experience in the practice of obstetrics has seen some of these unfortunate babes, and heard the various explanations of how the impression was made.

It matters not what character of mark or deformity may be found on a babe, the mother can look back over the nine months and think of something that the mark reminds her of; then, with a firm belief in this superstition, it is easy for her to believe that her babe was marked by maternal impression. Then, with a physician who has not backbone enough to go up against the opinion of the granny woman, and explain this fallacy, is it any wonder the neighbor's wife across the street will spend the remainder of her gestation in abject horror and fear for her own babe that is yet unborn?

It is my opinion, from nineteen years close observation, that this one superstition causes more mental agony among the expectant mothers of our country than all other diseases and misfortunes combined. Think of the pregnant woman, who deserves all the tender sympathy during the period of gestation that she can possibly have; think of the woman who is undergoing all the trials and dangers of pregnancy, when she should be comforted and consoled by a kind husband, pleasant associates, and last, but not least, have the attention of a competent physician; then, think of her neighbors calling to see her, and talking of monstrosities, and telling of all the poor, unfortunate, crippled and deformed children they have ever heard of, and the husband telling her "that he hopes the baby will be alright," and then the family physician give his sanction to the maternal impression fallacy. If the theory was correct, the picture I have just put before you would be sufficient to mark all the babies in Christendom.

THE PESTIFEROUS FLY.*

By William Blair, Columbia.

It has been very clearly demonstrated that the mosquito is one of the principal carriers of the malarial germs, therefore there has been a war waged on the mosquito, and very successfully too, by attacking them in their breeding places. It has also been proven that the common house fly, is also a carrier of disease germs. Therefore there ought to be a war of extermination waged against them also. The mosquito is the carrier of the malarial germs, while the house fly is the carrier of the typhoid germs, also the germs of typhus dysentery, plague and tuberculosis. Therefore it behooves us to be up and doing, and to educate the people along these lines, how to fight against this possible source of disease and danger. In the last biennial report of the State Board of Health, it is shown that typhoid fever is perhaps the most preventable of all diseases, not even excepting smallpox. It is now definitely known that like cholera, and dysentery, the germs of the disease are contained only in the discharges from the bowels and the kidneys, and perhaps the sputum of the patient. And it is necessary for the person to swallow some of the discharges, or thing polluted by them in some way, in order to contract the disease. They usually gain entrance to the system through infected water, polluted by infected fecal matter. Such matters may be carried by flies, deposited on food, cooking utensils, and the hands of the cooks and waiters, in unscreened kitchens and dining rooms. In the distressing and fatal epidemic which clung to our military camps at Chickamauga, Camp Mead, and other places during the Spanish-American war, flies were found to be the principal carriers of the disease. The United States commission, appointed to investigate the origin of the outbreak, found by the use of a white powder sprinkled on the discharges in the camps, thousands of these pests were tracked from these and found to be covering the food and cooking utensils in the kitchens and mess rooms of the common soldiers. Cultures taken from the feet, legs, bills and intestines of these flies, showed the germs of typhoid fever in countless numbers. The kitchens and mess rooms of the officers were screened, and they almost uniformly escaped the disease. Flies, like mosquitos, should be attacked in their breeding places, which is in the filth piles especially in stable manure, and other barnyard filth. Such places should be treated with disinfectants and antiseptics daily. The stools and other filth piles should be sprayed daily with a solution of corrosive sublimate and carbolic acid. Our health officer, Dr. Taylor, thinks that petroleum would answer for flies as well as mosquitoes, sprayed on their breeding places. The next best thing to do as a protection against flies, is to screen the doors and windows of our houses. This will keep out most of the flies, and will also keep out mosquitoes. What few flies did get into the house could be caught on a sheet of fly-paper (tanglefoot). I learn from reliable authority, that to fumigate your house with formaldehyde gas will kill all the flies in a room as well as all the disease germs that may be hidden in the cracks and crevices about the house. We should screen our doors and windows as a protection against the visiting flies, of our clarless neighbors, who might unawares, send by their flies to us germs of typhoid fever or tuberculosis.

A very good plan to fight the flies, after we screen them out of the house, is to keep some kind of fly poison near the door, on a shelf high enough to be out of the reach of poultry and small children. I believe the war on tuberculosis, if it ever succeeds, will have to first inaugurate a war on flies, for the germs of tuberculosis, can be carried by flies just the same as the germs of typhoid fever, cholera, dysentery, or any other germ disease. As this is a new subject in sanitary science, the people will have to be educated and instructed in the prevention of diseases by the extermination of the common house fly.

Vernon Robins, Louisville city chemist and bacteriologist, also bacteriologist to the University of Louisville, says: "By magnifying a twenty-four times culture, of typhoid bacillus, I find that on an average of 3980 typhoid bacilli would adhere to a leg of a house fly. Taking into consideration the difference in the length of the six legs of the fly, a rough approximate estimation is made, that 18,000 bacilli could be carried about in this way by a single fly." "Then take into consideration that thousands of flies will congregate in our kitchens and dining rooms for their dessert, after dining on the excrement of a typhoid patient, or perhaps they have dined on the sputum of a tuberculous patient, or it may be that they have sucked the virus from a small-pox patient, or a chancre or a chancroid, not only this; but they will visit the neighbors and the schools, and sample everything on the table. Is it any wonder typhoid spreads in families and neighborhoods where proper sanitation is not looked after?

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*Read before the Adair County Medical Society.

I cannot see how the great white plague is to be stopped, till we stop flies from carrying the germs to and from our neighbors' houses. Therefore "Swat the Fly."

DIAGNOSIS OF TYPHOID FEVER.*

By W. M. J. Smiser, Skylight.

You know it has been said that gray hairs never made one wise, although those who made out this program must have been laboring under this mistaken idea when they selected your humble servant to write on so important a subject as typhoid fever, much less to write upon what he considers and no doubt every doctor considers as the most important part of any subject, diagnosis. This subject is second to no disease now known to the medical mind, because it carries off its thousands each year, but notwithstanding it has been shorn of much of its dread through the altruism of the medical profession, and the time is not far distant when, like smallpox, it will have been robbed of all of its dread.

Typhoid fever belongs to all nations and climes, nor is it any respecter of person or age, although it is most frequent from 15 to 25 years of age.

This may not be hewing to the line, but if it provokes a lively discussion it has filled its mission. It is not an easy task to write upon just one phase of a subject, as diagnosis, when one is in the habit of studying the whole of a subject together.

This is an infectious disease, we are ever on the lookout for the bugs, but our natural eyes are not sufficient for this purpose and we have to call on some one else to do our looking, and we must take many things by faith and not by sight.

This great little bug is called bacillus typhosus, and may be found in many parts of the body, if not all of them. But we, as country doctors, are not so much interested in this little creature as we are in the following symptoms:

We are called to see a patient and we look for fever, which rises gradually the first week until it reaches 103 to 105, with a difference of from one to one and a half degrees between morning and evening. Up to the time when the doctor is called the patient feels tired, weak, with little energy, and he has, as a rule, gone to bed when he sends for a doctor, and the beginning is usually counted from this time. We usually look for a brown or whitish coat on the tongue with red tip, although this is not uniform. The stage of incubation varies so much that it cannot be relied upon, but is usually said to be from one to four weeks; this no doubt depends upon the kind of soil in which the germ finds a lodgment. We look for typhoid fever in the autumn, and it has been called autumnal fever, but it may occur anytime of the year, the fourth of July not exempted. In most cases the patient will tell you that nothing hurts him and that if he were not so weak he would get up . Anorexia is the rule, although some have a good appetite all the time. Diarrhoea usually begins about the second week, though there may be constipation throughout the disease. We usually expect this trouble to subside in about four weeks but it may not last more than two weeks, and then it may be prolonged to eight weeks. Relapses are not the rule and are of short duration, and are usually brought about by some error in diet or some unusual excitement. The fever is usually continuous up to the end of the third week, when it begins to subside, and usually we find the patient has no fever in the forenoon, but an afternoon temperature of some two degrees. At this time the patient is said to be convalescent, the appetite having returned, and if no error in diet to cause a relapse the patient regains his strength and flesh.

We often find that the temperature and pulse do not run together, when the temperature is at 104 we expect the pulse rate to be about 110, but we often find it not more than 90, and weak, so much so that the first sound cannot be told from the second.

We usually look for a great deal of trouble with the bowels as the glands are infiltrated, congested and swollen, gurgling in the right iliac fossa, tympanitics, pea-soup stools, etc. Many of our cases we are in doubt about, sometimes on account of complication and at others because the symptoms are so mild, but all of a sudden we are sent for to find that our patient is dying from either hemorrhage or perforation, showing that we may have these complications with some of the lightest cases.

We are taught to withhold our diagnosis until we are reasonably sure of our case, but then we may be like a noted medical teacher, who had quite a prominent man for a patient and he was not certain of his case, so he would put the wife off when she pressed him to know what the trouble was, when finally about the tenth or twelfth day he told the wife he was sorry to tell her that her husband had typhoid fever and no doubt would be sick a long time, but he said, behold on the morrow when he returned he found his patient clear of fever, and it never returned. So you can understand how a country doctor can be mistaken in his diagnosis, when a city physician would make a mistake.

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*Read before the Oldham County Medical Society.

I once heard Dr. J. B. Marvin say in a lecture to his class, when he presented a specimen of abscess of the liver, that he made his diagnosis after death while the rest had attempted to make theirs before death and had failed, as no one had called it abscess of the liver.

RECAPITULATION.

Malaise, tired feeling, headache, fever, fever running one to one and a half degrees more in the afternoon than in the morning, loss of appetite, diarrrhoea, gurgling in the right iliac fossa, swollen or distended bowels, rose-colored spots on chest or abdomen, brown or whitish coat on tongue, with red tip, later subsultus, cephalalgia; fourth week no temperature in the morning with one to 2 degrees in the evening, and an appetite that cannot be controlled.

DIFFICULT LABOR.*

By H. C. Clark, Falmouth.

Hoping to get anything out of this subject of practical interest, I must confine myself to some of the difficulties which I have met with personally, and must recall and review just a few cases in order to make my paper as pointed as possible; mentioning as I progress the blunders and mistakes, which I have been guilty of; I do not desire withholding the truth. I am anxious to let it all come, that the value of the paper, if it has any, may not be lost and the object of it misunderstood; trusting you may be able to believe that my aim is to be helpful to the profession, and that somebody may be benefitted by reading this article. Every one's experience has not been the same you know. It is only by referring to my experience, you can in your minds bring up your cases of similar kind and make comparison, that interest will be found and the subject be better understood. I have included in this paper the patients who may consult you two or three months before confinement, as well as the woman who has been delivered, and has had some things take place, such as hemorrhage, retained placenta, lacerated perineum, and infections, or other complications or sequela.

The first case of obstetrics that I wish to call your attention to where there was anything in the way of a normal delivery and an early return to health was a primipara, very tall and slender, 35 years of age. I was called to assist the physician in charge and the case looked ugly. The pains were extremely hard, and the head was still above the brim of the pelvis. The doctor informed me that she had had teaspoonful doses of ergot every hour for several hours. Eclampsia claimed the patient, she died before delivery. At that time there seemed to be nothing else to do but stand aside; it would not be so to-day. With the improved manner of teratment we have seen like patients recover. Chloroform was then the only remedy used in this case to check the convulsions. We knew very little about veratrum or the use of forceps; blood-letting was denied us. At the present time we would withhold the ergot and use veratrum delivering with forceps. I have seen several just such cases do well since that day with the treatment last mentioned.

The next case which gave me a great amount of anxiety was a distended bladder, which was so large it partially filled up the vagina, interfering to some extent with the descent of the head. It may be that a novice ought to have been able to have discriminated between a child's head and a distended bladder, but I was not, and I failed for two hours to discriminate. Don't know that I ever would have found out except from a remark the patient made after I had been in the house two hours, she told her husband that she hadn't voided her urine since yesterday morning, and this was about noon. I immediately passed a catheter and in an hour's time or less the child was born and everything went well. In mentioning this case I do it merely for the effect that it may possibly have on some brother who meets with a similar condition of things, and insist upon him asking all the necessary questions and use all the means of examination known to him to determine the true condition of things. This was thirty-eight years ago, and it is bright in my mind and I am sure I haven't made the mistake since, nor failed to find out whether or not the bladder was empty.

The next case to give me trouble was a uterine polypi, which must have been a very rapid growth as it filled the vagina; with every pain it would descend. I examined many times feeling as carefully as I could for the cervix uteri, the child's rectum or genitals, thought it might possibly be a breech presentation, but the presenting object was too soft and was free from anus or scrotum. What I had to deal with I did not know. Thought maybe it was a monstrosity. It was something past my finding out. Of course this suspense did not last a great while, but it seemed to be an age to me. Whatever it was would soon be known as the pains kept right even ahead, gaining in strength all the while, and after a little bit the tumor passed and the head followed in the same pain. The pedicle of the tumor was stretched taut, the attachment was at the inner edge of the cervix. After the placenta was delivered I passed a ligature as high up as I could and severed the attachment, and the patient to my surprise made an uninterrupted recovery. I will say here that in my judgment there was nothing whatever to do except to stand still and wait, be ready to act when the time came, and this is what I did.

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*Read before the Pendleton County Medical Society.

Case third. Primipara. The patient was anaemic. Face pale, pulse 130. Had never seen her before. Regular physician was absent and I answered the call, and it got me into more trouble than I have had since or before with a case of obstetrics. Not that I had so much trouble in delivering the woman, but it was the condition of things following that gave me the trouble. On examination I discovered a soft, flat, flabby tumor or growth protruding from the vagina on the left side. I asked the lady if she knew of its existence. She said she had known it for a year. It was very small when she first discovered it. She had called her physician's attention to it and he had promised some time in the near future to remove it. I had no idea where the tumor was attached, nor could I then ascertain. It was soft and smooth and appeared to be of the same size as far as I could follow it. From the general aspect of the case I felt justified in informing her husband that the case was grave. She was soon delivered of a puny girl baby. After the delivery of the placenta I undertook to find out where the growth was attached. Upon investigation I found it involved at least one-half of the cervix and extended far into the body of the uterus. The descent of the head lacerated the tumor, mashing it into many fragments. The next day her regular physician was called and told her husband that I had left a portion of the afterbirth in his wife. I never heard anything from the patient after her confinement until after her death which occurred on the sixth day. Referring to this case I wish to say that a physician's conduct under these conditions should be as clean and as true as it is possible for him to make it. I say that this case caused me more trouble and heartache than any other case I ever attended because of the conduct of the other physician; not that I felt in the least guilty, but on account of the bitter and hard language I used to him and the hellish feelings I harbored in my heart toward him for months. I cherished it during the day and it haunted me, it remained with me in my dreams, but time the great leveller did its work and long before his departure I forgave it all, allowing the mantle of sweet charity to wipe it out. It was only a mistake after all.

Case four was the consultation. The head too large, pelvis too small, pains too weak, or possibly too much ergot which spent its force on the lower segments of the uterus. The physician in charge informed me that he had attended her in six previous confinements with but one living child. Craniotomy was resorted to. That was my fist experience of the kind. I was of the opinion then that that was the correct and only thing to do. The child was dead, or I don't think I would have operated as I did, nor resorted to any such barbarous measure and I have regretted that I did it from that day until now. I know now it was the wrong thing to do. Version would have been the correct thing. I am rejoicing to-day as I never did before the physician has discarded that along with several other ugly and uncalled for modes of practice.

Case No. 5. A primipara. A hunchback less than five feet tall, pigeon breast, short neck, long arms and hands, spindling, long legs and short body, one hip apparently two inches higher than the other. She consulted me three months before expected confinement. I tried to persuade her it was impossible for her to have a living child at term. That it would be best to induce labor at seven and a half months or before. I had measured the pelvis and sent her to a Cincinnati physician to have her measurements accurately taken there, and he did his best to induce her to consent to an interference but without avail. She said that she was perfectly willing and anxious to make the trial and would have nothing whatever done to lessen the chances of her child to live. She haunted my life and never was I so distressed and annoyed by the continual and everlasting pleading of the patient. She was insane from her desire to have a living baby. I have seen a great many women who became insane almost in their anxiety to get rid of their child or to prevent conception which seemed to be great, but never had I seen anything like this the desire to have a living baby. Such an amount of cheerfulness and hope, I never saw her disheartened or discouraged. She always met me cheerfully and said "if I could live long enough to hear the cry of my baby I shall be content to depart." She went to almost eight months and her labor came on at one o'clock A. M., the pains were strong and regular from the first and seemed to grow in strength continuously and her strength was excellent. The membranes held intact until 5:00 P. M., dilatation was soon affected, at 9 A. M., the forceps were applied almost continuously until 12:00 when she was delivered of a girl baby that breathed slightly and weighed five pounds. How this delivery was accomplished, things that acted in her favor: It was a small child, soft head and under eighth month, and a determination to succeed or die in the attempt. The notes given me on the actual measurement of the pelvis have been misplaced but I remember the final deductions that the average length of all diameters were less than four inches, and that made it impossible it seemed to have a living child. That was seventeen years ago and that baby is a beautiful girl today, and her mother well and both of them contented and happy.

Now case six. This case, I think, has a little more of interest in it than usual. That is practical interest. Primipara, 24 years of age, a perfect blonde, weighing 90 pounds, From the beginning of the second month in pregnancy her troubles began and multiplied until the close of the term. Threatened abortion until after five months, then the digestion was so poor that scarcely any solid food could be taken, pain in the epigastrium, hypodermic injection of morphine had to be resorted to frequently. Her sleep was broken, she was nervous. At the end of six months her limbs began to swell, then her hands and face, her urine was almost suppressed. She began seeing floating objects and having a continuous headache. Her pulse was extremely rapid, and she carried a temperature of 100 or 101 at times. Her diet was then restricted to a milk diet altogether. Gave normal salt solution per rectum for two or three hours every day, and for the last two or thre weeks was given 10 to 15 drop doses of Norwood's tincture of veratrum every four to six hours. This cleared her vision apparently and relieved her headache. Labor came on and the pains were regular several hours, but her strength failed so completely that at the end of about eight or nine hours delivery had to be affected by the use of forceps. She had one convulsion which was very light, lasted but a fraction of a minute. The perineum was lacerated but repaired within an hour and united by first intention. The apparent effect of the unusually large doses of veratrum and continued so long was new to me, and suggested by a friend of mine in the city, and the end of the case makes it plainer to me that like the case of the deformed pelvis that almost every woman may do well under the most trying circumstances.

I will speak of one more difficulty which follows or comes with the closing of the third stage of labor. I refer to post partum hemorhrage and its consequences. I shall not mention the treatment to control the hemorrhage, but only the course which I think should be followed to protect the patient against sepsis, etc. Now we are warned and cautioned against the introduction of the naked hand into the uterine cavity, in order to remove clots or partially deatched placenta. But there come times when this has to be done, and is far better than curette and we have to take one or the other horn of the dilemma. Some physicians prefer leaving small pieces of attached placenta rather than to introduce their hand at all, claiming that in four or five days nature will throw off these particles and the lochia will carry them out. Realizing the danger of the hand, gloved or ungloved into the uterine cavity it may seem best after that is done and a great many good authorities favor it, to use some sort of a douche. We know that the warning we had in this direction is wholesome, but it may be that in order to check hemorrhage another proposition that comes up, that the hand must be inserted whether the hemorrhage be concealed or otherwise. You are forced to introduce your hand, not only that, but introduce it many times, and the uterus having closed firmly seems to have apparently controlled the hemborrhage, but it would relax and the hemorrhage come on just as severely, and you would have to repeat your treatment over and over again and it is possible that you have carried something into that uterine cavity that may infect your patient. Now comes the question whether it is better to allow nature to take care of that or to use douches. I know there are cases where particles of placenta and membrane have been left and a normal temperature prevailed although theer was an odor to the discharges, but is this rule the safest and best for the protection of your patient against sepsis? Is this rule so stiff that it will not bend or that you cannot change it? I know all the things that are said about the danger of tinkering, and I fully appreciate the opinions on both sides of this question. I know also that the amniotic fluid is antiseptic, and after the birth of the child or a little before it flows out purifies the passage and carries out any germs that may be lurking there, but the amniotic fluid may be passed six, eight or twenty-four hours before labor comes on and it cannot do very much good then as an antiseptic. As a precaution to your patient I am fully aware of the fact that we cannot be to careful lest we carry from the vagina some of the bacilli that lurk there and have escaped the purifying effect of the amniotic fluid, the question is, would we run a greater risk by douching by taking in germs from the uterine cavity into the vagina, or washing out some that have affected an entrance. If nature in such a case can be left to her own sweet will she may fail to protect. Is there nothing right and intelligent you can do at this time to put a safeguard about the patient. I am not an extremist, I do not want to see the pendulum swing too far in either direction, but I am a firm believer in prevention. I am not wedded to douches, nor do I think they should be used indiscriminately. They are potent for harm and invaluable also, depending upon the good judgment and careful operation of instruments and washes whether this shall be a remedy for good or evil. There is a line beyond which we may not go in safety, and at which we cannot stop and be justified. I am sure that clots, membranes or portions of placenta left in the uterine cavity are dangerous to a large degree and I believe should be cleaned out. It would be, to my mind, almost like failing to clean out and cauterize a wound in the foot made by a rusty nail or fail to use antiseptic dressings for any kind of a wound, and be satisfied by opening an abscess without making any arrangements for the escape of pus and let nature do all the cleaning and disinfecting unaided. Our object being prevention of puerperal sepsis. I should not be surprised that within the near future a n immunizing dose of mixed bacterias or serums will be given on lying in patients at the conclusion of the third stage of labor provided the success promised us in their use is further verified. If the pulse is increased and especially if the patient has had a chill it is time to hang up the danger signal, and even with our present knowledge of the anti-toxins begin their use, and I now believe that there should be a few doses given night and morning for at least three days. It has been made very clear to my mind by a recent German authority that failure to find streptococci in the blood of many women who had puerperal septicemia and died of the disease; that notwithstanding this result in blood examination, it would not warrant a favorable prognosis not a positive finding denoting a fatal ending, as some in both classes die, and likewise some recover, but the chill, the pulse and temperature and tongue are never disappointing to us, the blood may be.

DISCUSSION.

S. M. Hopkins, Demossville: The essayist has given us a very minute description of some very interesting cases. He describes three cases as mistakes. I am not sure that he made mistakes in the craniotomy case. I have always censured myself for not doing craniotomy in a dead hydrocephalic child, would have saved badly lacerated perineum. Craniotomy is seldom done in hospitals where specialists are available, but in the country where we have no one capable of doing a symphysiotomy or Cesarean section craniotomy still has its place, especially where the child is dead. In the hunchback case, he describes a patient of mine, also the tedious delivery as well as it could be described. One point of interest in my case was a very pendulous abdomen. We made no advance with forceps in this case until there was used what seemed to be almost an alarming amount of pressure on fundus in an upward and backward direction. Difficult labor is due to many different causes. The most common is some deformity in pelvis, some obstruction in soft parts or some abnormal size or position of foetus. Anything that causes a disproportion between the size of passage and passenger. Failure to make correct diagnosis of presenting part is sometimes a cause of difficult labor. In one high forceps case I though I was dealing with an occipito-anterior position. After about two hours of the hardest work I succeeded in delivering a ten pound boy in occipito-posterior position. Had I recognized the position in this case and performed podalic version I would likely have saved severe rupture of perineum. I saw, in consultation, an almost parallel case. The doctor had failed with forceps. I inquired about the position. He said he was not sure about it. Upon introduction of hand for purpose of diagnosis, I found vertex just entering superior strait in oblique diameter occiput-posterior. By hard work between pains the position was changed enough that when forceps were reapplied delivery was soon effected in occipito-anterior position.

In conclusion will report a case, seen only two days ago, and rendered difficult on account of being primipara with congenital mitral stenosis, face presentation, and rupture of membranes at very beginning of labor. I saw the patient in a short time after labor set in, barely dilatation enough to admit finger. Upon careful examination found the presenting part was a nose pointing in posterior direction. I had been afraid of this case on account of the bad cardiac lesion and called counsel at once. The pains came on slowly but regularly, soon found she had right mento-anterior position. The same position was maintained until the pelvic floor was reached when the chin rotated under pubic bone. Two stitches repaired the perineum. The heart held up well. The case was not so difficult as it looked.

Non-Operative Treatment of Cancer.—Theilhaber declares that the efforts of Nature to throw off malignant disease are along the lines of hyperemia, hyperleukocytosis and abnormally intense proliferation of connective-tissue cells. All the non-surgical measures which have proved useful in treatment of cancer have an action in one or more of these directions.

HOOKWORM TREATMENT.*

(REPORT OF TWO CASES.)

By EDGAR DUFF BURNETT, Anchorage.

Upon a recent examination of fifty patients of mine through the good graces of the Jefferson County Health Department, I found two infected with hookworm. These two patients twin sisters 11 years old, came to our community a year ago from the mountains of Kentucky.

While these two children were not very robust they were fairly well nourished and presented no cardinal hookworm symptoms. One of the girls has had some gastric discomfort, nausea, cardiac palpatation and slight nervousness on three occasions the past eight month. This same girl with lack of nerve balance was found to be the hostess of yet another parasite, the stomach worm.

For 24 hours before administering thymol the two patients were placed in bed, put on a milk diet and given a purge of sulphate of magnesia. Each was given, on an empty stomach, thymol 10 grains at 8, 9 and 10 A. M.—a total of 30 grains. They were not given any liquid until ready at noon for purge No. 2, 1-2 ounce magnesium sulphate. At 6 P. M. they were allowed to rise and eat a full meal.

No symptoms of any thymol poisoning appeared. Each dose of the drug was triturated with 5 grains of sugar of milk added and then mixed with a simple syrup to disguise the acrid taste.

In one week a second treatment was instituted, the same routine being carried out. Everything indicates that he hookworm has been absolutely removed from his habitat. It remains to make a microscopical test to verify results.

The patients are to be put on tonic treatment; gentian and iron, bone marrow or such for six weeks.

Some authorities prefer 1 ounce of sulphate of sodium, or *podophyllin resin* and *mild chloride of mercury* in large doses for purgative effect. The latter is likely to produce some prostration and should be avoided in asthenic patients. *Betanaphthol* is used by some instead of thymol—the former not being so toxic.

A practical deduction is this: After hearing Dr. A. T. McCormack's clarion note February 12th, 1913, on the hookworm situation in Kentucky it behooves the Oldham County profession to join in the struggle for the separation of host and parasite. Let's be up and doing, ye men of Oldham! Heaven smiles on you, will you get busy?

Local Anesthesia for Operation on Joints.—Deutschlander found that it was difficult to ensure local anesthesia for an operation on a joint unles the blood had been previously expelled from the limb. He followed the technic for Bier's vein anesthesia to ensure that the blood was properly expelled, and then the anesthetic was injected directly into the joint. Unless the blood has been expelled, the synovialis absorbs the anesthetic so rapidly that its effect is soon lost and sensitiveness returns. For a large joint he injects the anesthetic at two points. If the synovialis is destroyed to such an extent that it is unable to absorb the anesthetic, ther eis little if any anesthesia. Consequently if the interior of the joint is totally destroyed theer is no chance of success with this method of direct anesthetization. It is not applicable to joints, like the shoulder and hip, from which it is impossible to expel the blood effectually. Separate anesthetization is also necessary for the skin, in order to reach the joint. But once past the skin, the most extensive operations can be done absolutely painlessly.

Mechanical Predisposition to Pulmonary Tuberculosis.—Seven years have passed since Hart's work appeared on the mechanical predisposition to tuberculosis afforded by congenital anomalies in the uper aperture of the thorax, after Freund had called attention to this factor and proposed to modify the shape of the thorax by chondrotomy. Schultz has examined recently 105 cadavers of consumptives and has been surprised to find that very few of them had any traces of the mechanical conditions which Freund and Hart regard as predisposing to and almost inevitable with pulmonary tuberculosis. He devotes eight pages to tabulation of the details in 100 cases, his conclusions being all negative in regard to the importance of thees mechanical conditions as having anything to do with the development of tuberculosis in the lungs.

Treatment of Sarcoma of Long Bones.—After detailing Coley's results and views as regarding the treatment of sarcoma of the long bones with his fluid, Eve quotes the results obtained at the London Hospital. In no instance had any improvement occurred in periosteal sarcoma of the long bones. As regards the prevention of recurrence by Coley's fluid, he states that of three of his own cases in which a striking diminution of the tumor had occurred under the toxins, and subsequently local removal had been performed; in two cases local recurrence took place, and in one metastasis. His present attitude is unfavorable to the employment of Coley's fluid in any case of operable sarcoma and even as a prophylactic against recurrence.—Lancet, London.

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*Read before the Oldham County Medical Society.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 17 18. SEPTEMBER 1, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

PROLAPSE OF THE UTERUS AND ITS TREATMENT.

By LEO BLOCH, Louisville.

Prolapse of the uterus in any or all degree is due to the same cause, that is, failure of the normal uterine supports to take care of and maintain the uterus in a state of equilibrium. The beginning in every case of prolapse, is first, retro-displacement of the uterus associated with loss of pelvic fascia integrity, a lacerated cervix and perineum aided by intra-abdominal pressure.

The pelvic fascia and utero-sacral ligaments give more support to the uterus than all the other ligaments combined, but the round and broad ligaments maintain its position. The pelvic fascia is most important because it is closely connected with all the structures of the pelvic diaphragm, supporting bladder, rectum and female generative organs. Pelvic fascia may fail to develop or receive trauma at a normal delivery. The deeper the laceration of cervix the more likely is the pelvic fascia to be injured, and the greater loss of function. The amputation or repair of the cervix restores the continuity of the pelvic fascia and often cures prolapse. The anterior vaginal wall carrying with it the bladder can be transplanted several inches upward by high amputation of the cervix. The utero sacral ligaments maintain the cervix in a fixed position and help to keep the uterus ante-verted and maintain the acute angle between uterus and vagina. The round ligaments act as guy ropes preventing a retro displacement of the fundus of the uterus and when the fundus has become displaced by a distended bladder it is the function of the round ligament to antevert the organ again into normal position. It should not be forgotten that the round ligaments are non-striated muscle fibres and a part of the wall of the uterus itself which has been projected forward to the spine of the pubis. The round ligaments undergo hypertrophy during pregnancy and involution following pregnancy. In fact, they are the only ligaments not derived from the pelvic fascia. The broad ligament determines the position of the uterus laterally. The vesico uterine ligaments are part of the pelvic fascia, have the function of serving as a shelf for the bladder to rest upon. A cystocele will result if this part of the pelvic fascia is destroyed.

The pelvic viscera are supported and the equilibrium of the intra-abdominal pressure is maintained by the intact perineum when the perineum is not functionating having been destroyed by trauma, the increased intra-abdominal pressure has to be overcome by the ligaments and after some time these structures will finally give way and prolapse of the uterus will result. It is for this reason that in every case of procidentia the perineum needs attention and when destroyed, its restoration of function by surgical means is an important step in the cure of procidentia uteri. There are two classes to-day of operations for the cure of this condition, those operations having in view the formation of adhesions of the uterus to other parts in such a way as to hold the organs in the pelvis and to prevent prolapse out of the vagina; and those operations that shorten the uterine supports and in that way keep the organ from prolapse. Cases of procidentia may be divided as far as the surgical aspect is concerned into two classes, cases that are past menopause and cases that are still in the menstrual period. In those cases past the menopause, if the uterus is small and has undergone changes incident to menopause, ventral fixation operation combined with vaginal plastic work will readily cure; but if the uterus is enlarged by a growth or inflammatory changes, an hysterectomy is called for and the broad ligaments are made to serve for a shelf upon which the bladder is to rest and the vaginal tissues can be attached. In the child-bearing period, the operation of shortening the utero-sacral ligaments is very applicable,—this operation was described by Dr. Henry Jiellett of Dublin and Herman Grad of New York, from whom I quote freely.

The circular incision is made around the cervix as in a vaginal hysterectomy. This incision is met by a median one on the anterior wall of the vagina. The bladder having been stripped from the anterior vaginal wall, and is trimmed to the desired extent in order to relieve the cystocele that has existed. At the same time, search may be made for the so-called pelvic fascia and this fascia by appropriate suturing is made into a shelf for the bladder to rest upon. It must be borne in mind that in shortening the utero-sacral ligaments, that not alone are these ligaments shortened and thereby made tense but the entire pelvic fascia is shortened and thereby made more tense. The utero-sacral ligaments can usually be found by grasping the loose tissue behind the cervix. This tissue is severed from the cervix and by a little dissection the utero-sacral ligaments are identified. Should this procedure fail, the peritoneum may be opened posteriorly and search made for the ligaments by palpation. Once found they are separated. High amputation of the cervix in each case. The cervix having been amputated the utero-sacral ligaments are shortened, then stitched to the cervix in front. The effect of this is that the cervix is drawn backward by the ligaments. If the cervix is not drawn backward by ligaments the utero-sacral ligaments have not been properly identified. The cervix is covered by a flap of vaginal tissue as in ordinary operations of amputation of the cervix and the anterior wall of the vagina is closed in the usual manner.

The perineum is taken care of by the flap-splitting method of Lawson Tait keeping inside of the opening of the Bartholins glands. The muscles are all stitched in the median line. The redundant posterior vaginal wall may be removed in any manner, shape or form the surgeon wishes.

I have several times performed this operation in the last six months with most gratifying results. None of thees patients have become pregnant so, personally, I am unable to say what effect parturition would have. But other operators claim that parturition is easy and prolapse does not recur following pregnancy.

DISCUSSION.

F. T. Fort: I have not had the pleasure of doing the particular operation described by the essayist, but I do not believe there is any condition for which more operations have been devised than prolapsus of the uterus. The Alexander-Thomas operation was a very popular one but it was difficult to get the lumen of the uterus to stay fixed. Aluminum or silver wire was used and it was found that the round ligament stretched, with the result that the condition of the patient was no better than before operation. Then we had Gilliam's operation, fixing the uterus to the abdominal wall; then Coffe's method, Fowler's method, and so on. Each of these operations has its good points, and I believe that the one, which, in the judgment of the operator, is best suited to the requirements of the individual case is the one that should be employed. Of course a lacerated perineum should always be remedied. I believe splanchnoptosis is the cause of a great many misplaced uteri. If there was sufficient tonicity of the bowels, stomach, etc., we would not have abdominal pressure against the uterus, forcing it out.

J. Garland Sherrill: Dr. Bloch has cited some very important facts one of the most important being that, if the direction of the body of the uterus lies in the same direction as the vagina, the individual is likely to have procidentia, or prolapse of the uterus. But if the uterus is placed so that its axis lies at a right angle to the plane of the vagina, the probability of prolapse is much less. You can readily understand the philosophy of this statement. Of course, we have the utero-sacral ligaments posteriorly. I must confess that I have never been able to do much with the utero-sacral ligaments. I have seen operators endeavor for some time to get the utero-sacral ligaments through the vaginal route and shorten them, but I have never seen one accomplish what he was attempting. It is a very trying operation on both the surgeon and the patient.

The relaxation that occurs in prolonged prolapse, by atrophy of the tissues, is the important thing that prevents our obtaining a cure.

In many of these cases, undoubtedly the perineum must be restored. The trouble in many instances has been that the surgeon has restored, not the perineal body itself, but simply the skin portion of it. The result is rectocele and vesicocele, simply because we have built up the skin and not the deep tissues.

In regard to bringing the uterus forward and attaching it to the abdominal wall, I have tried the Alexander, ventral fixation, and the modified method of Gilliam, bringing the round ligaments through and anchoring them, and every one of these operations has this disadvantage: When you fasten the uterus here to the adbominal wall you have the bladder filling up, and instead of rising as it fills, it descends, and pushes the bladder and vaginal walls out through the vagina, and the patient thinks she is worse than before, even though there may be almost complete restoration of the uterus, and that is a very important thing to consider. If we do an hysterectomy, we are apt to have hernia following if we are not exceedingly careful. If there is a torn perineum in a woman on whom we propose to do an hysterectomy, it is better to do a perineorrhaphy also, because, if this is not done the whole thing is likely to come down as a hernia. We must bring the broad ligament over and sew them together, so as to hold up the vault as much as possible.

Jno. K. Freeman: This is a very practical paper on a subject which is interesting to all of us engaged in surgical work. One reason why we have so many different operations for the relief of prolapse of the uterus is the fact that we are confronted by so many different conditions, which must be handled just as we would do plastic work. We cannot lay down any hard and fast rules that will be applicable to all cases. We must use our mechanical and surgical ingenuity. Each case is a study by itself, and I do not think we are justified in saying that any one operation —I do not care how eminent the man who devised it may be—will relieve all of these cases. I have seen cases that were relieved by careful perineorrhaphy or colporrhaphy, and I have seen other cases that both of these operations failed to relieve, and in such cases we must resort to the Gilliam operation, or ventral suspension, or remove the whole body of the uterus, or do the operation Dr. Bloch has suggested. I have never done the latter operation but I think the secret of the success he has had with it lies in the amputation of the cervix, which causes a diminution in the size of the uterus and contraction of the pelvic fascia.

I have had the same experience as Dr. Sherrill with the Gilliam operation. These patients have had cystic disturbances which have worried me no little.

Chas. W. Hibbitt: There is something to be done in these cases other than plastic work. Whether or not we are successful in relieving the patient depends largely upon the length of time the prolapse has existed, the condition present, and the age of the patient. Where we endeavor to replace the uterus in the pelvis and try to keep it in place by strengthening or repairing the vaginal floor; the pressure above will finally push it down again, although it may not come down as far as it was at first. Then it is necessary to map out some other line of procedure in addition to the vaginal work. It is true that vaginal work will give these patients a great deal of comfort. Repairing lacerations and tightening up the vaginal floor will afford a certain degree of relief, but to get a permanently good result, it is necessary to go into the abdomen above and fix or suspend the uterus, as may be required by the condition found.

Another mistake we sometimes make is in using the round ligaments in all cases in an endeavor to hold the uterus. After the uterus has been posterior, or down for any great length of time, if we will examine the round ligament we will find in many cases that it has practically no muscular tone, probably being stretched out to the size of a small string, and if we endeavor to hold up a big heavy uterus by a ligament that has been stretched out for a number of years, we certainly cannot expect to get a good result. Therefore we must adopt a method of suspending or fixing the uterus by some means other than the round ligament. If we can do this by means of the utero-sacral ligament, we may get a good result. Of course there are some cases where we can get the uterus down to nearly its normal size and then suspend or fix it to the abdominal wall.

B. F. Zimmerman: This is a subject that always elicits a great deal of discussion, like any other condition in regard to which there is diversity of opinion, or for which we have no definite remedy. The fact that we have a great number of remedies for any one condition is proof that no one of them is suited to all cases. I have seen recurrences of prolapsus of the uterus following practically all of the operations that have been mentioned to-night, although I do not know that I have seen it following shortening of the utero-sacral ligaments.

The principal points of interest in connection with this subject have been fully covered in the essay and discussion. We must select the particular procedure that we believe will secure the best results in a given case.

So far as the uterus itself is concerned, changing the axis and building up the pelvic floor, in the manner that has been described, are undoubtedly important factors in obtaining a cure of this condition. Too often, in building up the pelvic floor, as Dr. Sherrill has brought out, while we may make it look nice from the outside, still it does not give any actual support. I never feel satisfied until I have isolated the levator muscles, splitting the fascia and bringing out the muscular tissues, and suturing both the fascia and the muscles; then bringing the skin together by means of catgut sutures, not carrying them deep into the perineum and thereby avoiding infection. It takes but a moment to isolate the levator muscles and bring them together in this way, and we are then absolutely sure that we have not simply brought together scar tissue. We cannot expect good, firm union if we simply bring scar tissue together, disregarding the muscles.

A. R. Bizot: I simply wish to call attention to the fact that the uterus is a wedge-shaped affair, and I believe the success Dr. Bloch has had with the operation he describes is largely due to the cutting away of the point of the wedge, so to speak, leaving the uterus spherical in shape and making its entrance into the vagina more difficult.

A woman need not necessarily have borne children to have procidentia; I have seen just the opposite. I remember one case in a woman who had not borne any children and had no laceration of the perineum. However, where there is laceration of the perineum it is important to repair it as early as possible. If it is allowed to go for a number of years, until atrophy of all the muscles has taken place, the patient will have complete procedentia, and that is the reason why we are unable to relieve many of these patients. An ounce of prevention is worth a pound of cure, and I believe that the man who attends an obstetrical case should be prepared to repair a lacerated perineum—not only bringing the skin surfaces together, thus leaving a great deal of dead space but he should eliminate all dead space and bring the muscles together just as a surgeon would. I think 24 to 48 hours after labor is a better time to repair a lacerated perineum than immediately after delivery, because if the parts are oedematous, sloughing may occur. Furthermore, when the parts are oedematous, it is difficult to suture them in such a manner as will secure satisfactory results.

Simrall Anderson: This is one of the most important operations that we are called upon to perform. My own method is this: if the patient has a relaxed vaginal outlet, I repair it, of course. Then open the abdomen and do a supravaginal amputation of the cervix, and suture the round ligaments together over the stump. This procedure gives these patients greater relief than any other operation I have ever done. So far as the utero-sacral ligaments are concerned, I never use them in conection with operation for prolapse of the uterus.

Leo Bloch, (Closing): I must admit that, in one of my cases, I was unable to find the utero-sacral ligaments. Therefore, I fastened the fundus of the uterus to the anterior vaginal wall. This is a very good method, especially in old persons, past the menopause.

In one case I had a rather unfortunate accident. This woman had, on two previous occasions, been subjected to perineorrhaphy, and in splitting the flap after bringing the utero-sacral ligaments in front of the uterus, I was unfortunate enough to go into the rectum. The wound was swabbed out with iodin and closed, and fortunately, the result was most beautiful.

Dudley has devised an operation which is often of service where the utero-sacral ligaments cannot be found; that is cutting fascia deep enough to expose structures attached to lower edge of the broad ligament and bringing them together across the front of the uterus. Sometimes the utero-sacral ligaments are quite hard to find, especially in stout women.

Shortening of the pelvic fascia will not cure these cases without amputation of the cervix and repair of the perineum. The operation I have described is rather unique and I think it is worthy of a thorough trial. Nine times out of ten the utero-sacral ligaments can be found, but if we should be unable to find them, it is an easy matter to substitute some other procedure and get the same result, provided we repair the perineum and do a high amputation of the cervix.

In regard to repairing the perineum after labor, I believe that where there has been a long and tedious labor, with considerable trauma, it is well to wait twenty-four hours after delivery, because there may be some sloughing, but as a general thing, I believe in early repair of the perineum unless contraindicated by trauma or by the poor physical condition of the patient. If the perineum is not repaired at the time of delivery or soon after, then it should be done by a secondary operation later on, because I believe most cases of procidentia start with a lacerated perineum.

The Intersexual Reactions of Human Blood.—In LeLorier's research he found that serum from a male agglutinated the blood-corpuscles from a pregnant woman and from another man in an average of 36 per cent. of the persons tested. The serum of a gravid woman agglutinated the corpuscles from a man or another pregnant woman in only 11.8 per cent. The agglutinating property is thus seen to differ in the sexes, but the red corpuscles in both sexes seem to behave exactly alike in respect to any given human serum. It is possible, he suggests, that this biologic difference between the male and the female albumins may be the cause of sterility in certain cases or of disturbances in the development of a pregnancy, either on the part of the mother or of the embryo.

Action of Salicylic Acid in Rheumatic Fever.—The real efficiency of the numerous compounds which have been recommended by manufacturing chemists in rheumatic affections, according to Stackman, depends solely on the amount of salicylic acid which they contain or develop in the body. Methyl salicylate, he says, develops salicylic acid in the body and retains the specific action.

SOME POINTS PERTAINING TO CHRONIC CONSTIPATION.

By Bernard Asman, Louisville.

The prevalence of chronic constipation, the role which it plays in the inception and progression of numerous more or less serious functional and organic diseases, and the comparative scarcity of recent literature in relation thereto constitutes the writer's principal reasons for selecting this subject for present consideration. Owing to the existing intimate relationship between obstipation and chronic constipation,—the former in many instances being the forerunner and frequently the direct if not the sole cause of the latter,—one must necessarily include both in a discussion of this nature.

When a patient complains of difficulty in defecation, the medical attendant usually makes the diagnosis of constipation without further examination or inquiry, and prescribes a more or less drastic purgative. The error of such a proceeding becomes readily apparent when it is remembered that only by digital examination, or ocular inspection through the procto-sigmoidoscope, can the exact condition and lumen of the lower bowel be accurately determined. Of course the small intestine and that portion of the large bowel beyond the range of the sigmoidoscope, must be otherwise investigated; and in the latter instance radiography (particularly stereo-radiography) has a wide range of usefulness.

Constipation has been briefly defined as tardy or insufficient fecal evacuation, but from the standpoint of probable injury to the patient the irregularity of the retarded fecal movements has a much greater significance. Since under ordinary circumstances in the normal individual from sixteen to twenty hours are required for food to traverse the gastro-intestinal tract, it would seem reasonable to assume that a person in average health should have one alvine evacuation each day representing in quantity approximately the residue of twenty-four hours. And while this may be the rule with the vast majority, it is a matter of common knowledge that many individuals have two fecal evacuations daily, whereas with others but one evacuation occurs in two days or even longer; and where these periods become established and are regularly maintained, no detrimental effects upon the health are recognizable.

The term constipation is exceedingly elastic, and as ordinarily employed it denotes a symptom having its origin in either a functional or pathological disorder of the gastro-intestinal tract,—particularly the large intestine,—which induces abnormally delayed defecation. Where the intestinal functions, secretions and peristaltic movements are normal, delayed defecation is improperly called constipation. Under these circumstances the condition should be designated as obstipation. The writer is not unmindful of the fact that some authors make no such distinction, yet the reasons therefor are quite obvious. Tuttle insists upon this distinction, saying in effect that true constipation is understood to be a condition resulting from functional or other diseases of the intestinal tract itself; whereas, obstipation refers to that state in which there is a sufficient quantity of fecal material and adequate functional activity, but there exists some deformity, growth or contracture within the intestinal tract which causes mechanical obstruction to the passage. It was contended by Martin some years ago that true constipation was practically always preceded by obstipation, and that in the majority of instances this obstipation was directly due to hypertrophy of the rectal valves. In his book on chronic constipation MacMillan states that obstipation is a condition in which there is a partial obstruction to the passage of feces, due to causes within the intestine producing constriction, or without the intestine limiting the lumen thereof. Of the former may be mentioned: (1) Hypertrophy of the anal sphincters, (2) angulation and certain forms of enteroptosis, (3) stricture of the bowel, (4) intestinal neoplasms. Of the latter the principal factors are: (1) Displaced or enlarged organs, (2) peritoneal adhesions, (3) abdominal or pelvic tumors. Glenard, as quoted by MacMillan, believes angulation or kinking due to ptosis of the transverse colon is of great importance as a causative factor. This, he states, takes place in greatest degree at the point where the transverse colon is attached to the stomach by the gastro-colic ligament. While the proximal portion of the transverse colon may descend to the symphysis, it must return to its normal level at this point. The angulation thus formed greatly reduces the lumen, producing a distinct obstruction and consequent obstipation. Fleiner, on the other hand, believes coprostasis is a cause of colonic displacement, rather than that ptosis of the colon causes coprostasis.

Undoubtedly mechanical obstruction to the passage of feces at one or more points in the large intestines may exist, and when resulting in delayed or irregular alvine evacuations such a condition may be termed obstipation to ditsinguish it from the condition in which the delayed or irregular passages are directly due to imperfect digestion, impaired secretions, defective peristalsis, lack of regularity, etc. Obstipation if continuous for even a short period may produce indigestion, disordered secretions, imperfect peristalsis, etc. Obviously, therefore, if persistent, obstipation will soon result in constipation in the ordinarily accepted sense of the term.

Hertz, of London, distinguishes between what he terms two great classes of constipation: (1) That in which the passage through the intestine is delayed, while defecation is normal,—intestinal constipation, and (2) that in which the feces reach the pelvic colon in due time, but their final expulsion is retarded,—pelvic-rectal constipation or dyschezia.

While a differential diagnosis may be reached with a fair degree of accuracy by repeated palpations, digital examinations of the rectum, and sigmoidoscopic inspection, by far the more exact means of diagnosis is by the X-ray. A breakfast of bread and milk, into which two ounces of bismuth oxychloride has been stirred, may be given and observation taken at intervals during the next two or three days. In this manner the point or points of retardation in either the large or small intestine may be definitely determined. If dyschezia be present, while the fecal mass may proceed normally to the pelvic colon and rectum, defecation is retarded and difficult.

Frequently the cause of retardation of fecal material in its passage through the large intestine is directly traceable to displacement of the colon, most often its transverse portion; particularly is this true when there is marked gastroptosis, the colon being carried downward with the stomach. In such instances the transverse colon may assume the shape of the letter "U", the lowermost portion reaching the symphysis or it may be lower. After passing the hepatic flexure the feces are deposited in this loop, and to reach the splenic flexure must be lifted directly upward against the force of gravity. In the opinion of the writer the ordinary colonic kinks are of minor importance. The same cannot be said, however, of an acute flexure at the recto-sigmoidal junction. Normally the empty pelvic colon occupies the space between the rectum and bladder or uterus. When filled with feces or gas it gradually rises into the abdominal cavity, thus rounding or straightening the flexure and permitting easy ingress of feces to the rectum. Where there has been previous peritonitis or extensive pelvic inflammation, the pelvic colon (which is normally freely movable because of its long mesentery) may be firmly adherent to the rectum, other pelvic viscera, or the pelvic floor, thus limiting its mobility to such an extent that the flexure at the rectal junction cannot be sufficiently straightened to permit free passage of feces into the rectum.

The radiographs herewith submitted are of interest in this connection. The patient, a female aged twenty-three, has been a sufferer from extreme and persistent constipation since early childhood. She states that at the age of ten defecation occurred only once or twice in two, three or four days, and then only after the use of purgatives or repeated enemata. Until three years ago her general health was fairly good, although she was not robust and never weighed over ninety-six pounds; height five feet and one inch. She continued the use of purgatives, changing from one to another at frequent intervals. Three years ago the loss of weight, strength and general vitality became very apparent to herself and to members of her family. Treatment,—medicinal, mechanical and constitutional,—was actively resumed, but apparently little benefit accrued therefrom. Tough, tenacious mucus in large quantities was discharged per rectum. The patient states that she was irritable, extremely nervous, and frequently nauseated; her appetite was markedly impaired, and she slept but little; she suffered much from cystitis, and splanchnoptosis was marked.

In October, 1910, her abdomen was opened. No adhesions were found, and there was nothing of especial significance to account for the extreme constipation and other symptoms, except the general visceroptosis and a markedly dilated and elongated colon. In closing the abdominal incision the fascia was drawn taut from each side and lapped as far as possible and firmly sutured, thus securing abdominal support and partial relief for a time from the dragging sensation caused by the low-hanging viscera. After a few months, however, the fascia stretched and the general ptosis became as marked as before. One year later the abdomen was again opened and about fourteen inches of the colon resected, and an end-to-end anastomosis accomplished. This was followed by much relief from the constipation and improvement in a general way. Unfortunately the constipation reappeared after four or five months, and since then has grown progressively worse. The patient is now a typical neurotic, and if it were not for this fact it would seem that if Lane's colectomy or short-circuiting operation is ever justifiable it would be indicated in this case.

The writer does not desire to convey the impression that the example just described is typical of a large class of cases of constipation, but it is undoubtedly true that such cases are by no means infrequent.

Time will permit only the mere mention of the various types of this troublesome affection. Many excellent classifications have been presented by recent writers. That of Illoway, which has been frequently quoted, is essentially as follows:

A. Chronic constipation produced by well-defined morbid processes:

(1) Obstruction of the intestinal lumen from strictures, growths of the bowel, or tumors pressing thereon:

(2) Impairment of the secretions poured into the intestine, in chronic disease of the liver or pancreas:

(3) Chronic inhibition of peristalsis through the nerve centers, in chronic disease of the brain and spinal cord, in chronic insanity, diphtheritic paralysis, tabes, etc.:

(4) Chronic (venous) engorgement of the portal vein:

(5) By chronic abstention from stool on account of the pain it causes by reason of disease of the rectum, in piles, fissure, ulcer, etc.

(6) By changes in the mucous membrane which impair irritability and render it incapable of performing its physiological functions, in indigestion, chronic catarrh, muco-colitis, atrophy of the colon:

(7) By atony of the intestinal muscles produced by morbid processes within the intestines and stomach:

B. Chronic constipation from foreign bodies:

C. Chronic constipation from:

(1) Malformation in abnormally developed colon, undue size or length of sigmoid flexure diaphragms and diverticula in the large intestine:

(2) Defection or essential atrophy of the colon:

(3) Dislocation or enteroptosis:

D. Chronic constipation from impaired function:

(1) Perverted action, enterospasm, spasm of the sphincters:

(2) Imperfect performance of physiologic function.

While Nothnagel, Fleischer and others suggest distinctly different classifications, the one just given furnishes a fairly complete summary of the diseases of which constipation may be a symptom.

Improper diet as a causative or aggravating factor in chronic constipation deserves attention. While all are agreed that diet has a direct bearing upon constipation, yet the relative influence of certain foods is a matter of disputation. Fleischer contends that very digestible food leaving little residue tends to produce chronic constipation, whereas Hemmeter claims that this is true only in exceptional cases. Generally speaking a mixed diet is to be recommended,—one including the fats as well as coarser foods, such as vegetables, etc., containing much water. Since seventy per cent. of the normal stools consists of water, the necessity of ingesting an adequate quantity of fluid is apparent.

Cases of obstinate constipation due directly to ano-rectal disease, such as hemorrhoids (especially if ulcerated), anal fissure, ulcer upon sphincter, rectal stricture, etc., are frequently encountered. Such cases are readily curable by proper operative measures directed toward relief of the existing rectal disease. Oftentimes persons suffering from constipation, and who are also the victims of piles or other rectal disorders, do not suspect that the constipation is due to the rectal affection, but believe the rectal disease is caused by the constipation, and are consequently much surprised when the constipation disappears after operation for the cure of the hemorrhoids or other existing rectal disease.

While the relationship existing between chronic muco-colitis, intestinal adhesions, Jackson's membrane, etc., and chronic constipation is still imperfectly understood, much assistance is afforded by radiography in the study of these conditions. Radiographic plates Nos .3, 4 and 5, herewith submitted, are those of a male of nineteen who came under my observation in September, 1912, having been treated two years for severe muco-colitis. He stated he was progressively losing in weight, that his appetite was impaired, sleep much disturbed, color abnormal, face covered with pimples, constipation becoming more severe, evacuations consisting of tenacious mumus, six or eight during the day, and three to six at night. Frequently he was unable to discharge the mucus after a quantity had collected in the rectum. At such times he said he became extremely nervous, and relief was obtained only after the mucus was mechanically removed.

The usual treatment proving of little avail, he decided November 1st to visit Hot Springs Arkansas, and endeavor to recuperate. He entered the Ozark Sanatorium at Hot Springs shortly after the first of November, and remained there under the treatment of Dr. William V. Laws for three months. While in the sanitarium the radiographs exhibited were made. He returned about February 1st, 1913, much improved in a general way, but constipation and muco-colitis remained about the same as before. Operation was recommended and accepted. The adhesions at the hepatic flexure were found as indicated in the radiographs. The constriction of the ascending colon was due to a Jackson membrane. The operation was uneventful and the constipation promptly disappeared. The mucus discharges gradually became less, and have now (three months after operation) entirely ceased. The patient has gained twenty pounds in weight, and says he feels entirely well.

The effects of long continued chronic constipation have been variously estimated and no doubt vary in different individuals, but it is generally admitted that auto-intoxication oftentimes results. Lane, in a paper before the Medical Society, of London, December 9th, 1912, said: "When these poisons and their products of conversion exist in excess in the circulation, they produce degenerative changes in every tissue and in every organ in the body, leading finally to death." Referring to tuberculosis, rheumatoid arthritis, etc., he claims that chronic intestinal stasis is directly responsible for their development. Further illustrating his extreme views might be mentioned his claim that large tubercular glandular masses in the abdomen rapidly disappear after disconnection of the large intestine (colectomy or short-circuiting). Again, he speaks of Birght's disease as being merely a product of chronic intestinal stasis, more or less curable by exclusion of the large intestine.

Daniel, in an article in the *Clinical Journal*, London, February 19th, 1913, and abstracted in the *Journal of the American Medical Association*, March 29th, 1913, gives expression to very different views. He believes that chronic intestinal sepsis is a very prevalent cause of constipation, and is firmly convinced that the most potent factor in inducing all intestinal lesions commencing in the mucosa and including constipation, is oral and nasal sepsis. He agrees with Lane that many diseases may be directly due to a disordered gastro-intestinal tract, but does not believe that the primary cause is mechanically evolved bands and kinks which lead to stasis and the stasis in turn to autointoxication. He holds that the evil is primarily an infection of the gastro-intestinal tract, and is in direct proportion to the number and virulence also to the varieties of the infecting germs, and that all the ill-effects Lane mentions may arise without stasis in any part of the tract.

DISCUSSION.

G. S. Hanes: I have long since decided that there is but little definite information yet obtained upon the subject of constipation. I admire the interest and enthusiasm Dr. Asman has manifested in dealing with this subject. I must say that he has disposed of it in a very satisfactory manner in my way of thinking.

Of course, subjects about which we know least are the ones of which we talk most. Whenever we become thoroughly familiar with any subject and its details are understood, very few words suffice to indicate that we are in possession of real knowledge and not groping in the dark with numerous hypotheses. The subject of constipation is in a state of chaos so far as reliable information is concerned. I wish, however, to call attention to two or three points about which I have rather firm convictions.

In the first place we have failed to fully recognize the excessive mobility of the large bowel and its influence upon the normal intestinal functions. To illustrate,—if the large intestine is injected with bismuth in suspension and a radiographic picture made it will be found that in the erect posture the ptosis, especially in thin individuals, will be very marked. The transverse colon will easily prolapse int the pelvis, thus making more or less acute angles at the hepatic and splenic flexures. In the thin individual, however, there is also a ptosis of the angles, especially the hepatic, and in this way the angulation is to some extent relieved. My conviction is that the acuteness of the angles, alone, play but little part in obstructing any material in its progress along the intestinal tract, but if the mobility of the transverse colon is interfered with in cases of ptosis then there will be symptoms as a consequence. On account of the splenic angle being situated much higher than the hepatic and also more securely fixed we certainly have more obstruction in this portion of the large bowel, so far as angulations are concerned, than in the hepatic side.

If the individual, with bismuth injected, be now placed in a horizontal position and another skiagraph made ptosis will be relieved unless the transverse colon is very long or there are adhesions that prevent this viscera from assuming its normal position when the body is horizontally situated. In this attitude the hepatic and splenic angles become much more obtuse thereby relieving the obstructive influence, should there be any, of the more acute angles.

I have thought it possible that the gravitation of the colon to the upper abdomen, when the horizontal position is assumed at night might have some effect on the progress of the colonic contents and thus act as an important factor in the early morning evacuation. Assuming, and I am sure it is correct, that the most natural time for fecal evacuation is after breakfast we can see three important factors contributing to this result; the first is the influence of ordinary exercise on the propelling functions of the large bowel, especially of the abdominal muscles are well contracted and relaxed a number of times; the second is the stimulation to the entire alimentary tract from food entering into the stomach, and the third is the more straightened position of the colon when the individual is occupying the horizontal position. I do not feel sure about the latter but I believe it is a question that deserves consideration. We know very well that some patients are much improved of constipation when they remain in the horizontal position the greater portion of the time. As I have said before I have felt certain that acute angles of the large bowel had but little influence on the passage of fecal material along its lumen yet it may be that there is greate consideration due this subject than has been formerly supposed.

It is often the case that the patient who has obstinate constipation (I am using constipation and obstipation as synonomous terms) is thin and below par in a general way. The bowel is usually large and very easily distended; the wall of the intestine is thin and in a state of atony. It does not possess sufficient propelling power to force the fecal material to the point of exit. In this type of constipation an irritating or actively stimulating irrigation is needed to excite muscular contraction in the intestinal wall. If there is an active infection in the mucous membrane of the colon the constant irritation soon produces enough contraction to cause a narrowing of the lumen in the colon of the most delicate patient. We have all seen the most frail and emaciated individuals affected with pronounced diarrhoea and in whom the intestinal walls were contracted and hypertrophied to an extreme degree. So as I have just said some local or stimulating agent injected into the colon would be a logical treatment in the atonic colon.

Again, we see cases where the fecal material has been deposited in the sigmoid or sigmoid and rectum in a normal way but the patient is unable to have an evacuation. This is the type of constipation that is due to the contraction or irritable and hypertrophied muscles that guard the outlet of the intestinal tract. There are so many causes for irritation about the anal canal that this type of constipation is not infrequently encountered. Of course, the method of treatment is to relieve the cause of irritation and thereby obtain normal muscular contraction. Many patients are operated for some diseased condition of the anal canal and at the same time are cured of a most annoying constipation. The fact is that constipation can not be treated in a scientific way without first ascertaining, if possible, the causative factors in the case. In some instances, it is true, no definite cause can be made out while in others it can be discovered if properly sought for, and no case should be treated without first exhausting every effort to find the nature and location of the trouble.

There is a type of constipation that is due to a dry form of catarrhal infection in the mucous membrane of the colon. In such cases the mucous membrane does not produce the normal mucus supply to lubricate the fecal material and facilitate its movement ove rthe mucous surface. The mucous membrane is dry and rough so again the fecal material is retarded in its progress. Here we need local treatments that are both medicinal and lubricating in their effects. Such agents can be easily obtained and most gratifying results can be had from their use. We see in this case a particular kind of treatment indicated for a definite type of constipation.

I feel certain that the various types of constipation can and will be treated, in the future, a great deal more by injections into the large bowel than they have in the past. Definite local conditions will be found amenable to definite local treatments. Agents given by the mouth can not be supposed to have the same influence on the mucous membrane of the large bowel as they would when injected through the rectum.

In this connection I will call attention to the fact that we have all labored under gross misapprehension in regard to the passage of liquid solutions around the entire length of the large bowel when injected into the recum. We know now that ten or fifteen ounces of water will pass around to the cecum in a few minutes when injected into the rectum. This being true we are enabled to have much more confidence in the medicinal value of rectal irrigations than we did when it was supposed they passed but a few inches up into the bowel.

In conclusion I will say that one of the most absorbing questions now before the medical profession is the study of the large bowel and in connection with other discoveries much, in my opinion, will be learned concerning constipation.

Wm. H. Wathen: I have listened with great interest to Dr. Asman's excellent paper. As Dr. Hanes pertinently remarks, whenever we find a subject that is written about constantly, in detail, few men agreeing upon the same things, we will find that it is based upon theory and not fact. When we learn all about any condition, it is not necessary to say much about it. Until we began studying these diseases in the abdominal cavity by direct inspection, using the sense of sight and the sense of touch, but little was really proved. Post-mortem examinations gave us a very imperfect idea of what had existed. Most of these patients died with a condition that was not present some time before death; terminal infections and complications frequently arose, but now, since we have learned to go into the abdominal cavity and inspect these structures, much has been learned, especially in regard to the large bowel and the part it plays in constipation. Just how it does it, the extent and the results of intestinal stasis, we are still far from understanding correctly. No two of the great abdominal surgeons entirely agree upon the same thing. Many surgeons of to-day are operating on cases where there is a great deal of ptosis, in thin people, especially women, who simply have neurasthenia, inborn or inherited, with probably a dislocation of the hepatic flexure or also the colic flexure. Operation under those conditions is simply a waste of time. We can do nothing for them except by means of abdominal supports. The best thing to do where we have extensive neurasthenia, is to surgically let them alone.

The origin of constipation is never in the small bowel; it is nearly always in the large bowel. In my work I have found that the trouble is somewhere between the beginning of the middle third of the transverse colon and the cecum. When we find the ascending colon coming up all right, and then angulating sharply, with adhesions, there we find constipation, and considerable gaseous distention. We will frequently find, however, that there are no adhesions but that the cecum and ascending colon are very much enlarged and sagging down, while the rest of the bowel is of normal size, although there may be some ptosis of the transverse colon. In such cases, if we will narrow the cecum and ascending colon by plication, there will then be much less fecal stasis in that part of the bowel and the lower ileum, where there is the greatest absorption of toxic products causing autointoxication, etc.

J. Hunter Peak: This is a subject in which we are all interested because we all see these cases. It is a strange thing to me how sometimes a slight band of adhesions or malposition of the gut will give rise to constipation, while, on the other hand, after getting into the abdominal cavity we may find practically the entire contents matted together by adhesions, and still the patient has not suffered from constipation. One thing I have noticed in my work in recent years, and which has not been mentioned here to-night, is that we frequently see extreme angulation of the ascending colon from a misplaced kidney. Not infrequently we see cases of appendicitis due to the same cause.

The point brought out by Dr. Wathen in regard to the plication of the ligaments between the liver and the stomach and between the stomach and the colon, may or may not be a good procedure. I believe more of this sort of work will be done in the future than has been done in the past. It has been my observation in a good many cases that angulation of the transverse colon may be relieved by simply shortening the gastrocolic and gastro-hepatic ligaments, which is easily done. It will stay there fifteen or twenty years, and if a picture is taken the gut and stomach will be found in the same position in which they were left. If we can relieve the angulation by this means, and also relieve the angulation in the colon by fixing the kidney, we can do a great deal for these patients. As Dr. Hanes has intimated, the time is coming when we are going to do a great deal more surgery of the large bowel than we do now.

Bernard Asman, (Closing): The proper use of enemata rather than purgatives exclusively in all cases of constipation is quite worthy of mention. Daily enemas, especially over long periods of time, however, are not to be recommended. Various means, other than purgation or the use of the enema have been found serviceable in provoking defecation in cases of intestinal constipation while awaiting results from the regular treatment employed.

Several years ago while treating an obstinate case of ulceration of the sigmoid it occurred to me that benefit might follow the prolonged application of medicated gauze direct to the ulceration. Difficulty was encountered in keeping the gauze tampon in the sigmoid because of its invariable tendency to provoke fecal evacuation. Having a case of severe chronic constipation under treatment at the same time a trial of gauze-cotton tampons in the upper rectum and sigmoid was made, with rather surprising and most satisfactory results. A series of experiments demonstrated the fact that in cases of pronounced intestinal constipation due to lack of peristalsis an evacuation can be secured in the great majority of instances in from two to four hours by placing a cylindrically shaped tampon one inch in diameter and about three inches long at or just above the recto-sigmoidal junction. This can best be accomplished through the use of the sigmoidoscope. It is well to attach a cord to the tampon so that it can be removed by the patient if desired. Of course this is not of itself a cure for constipation but by stimulating peristalsis in a rather natural way, it must be admitted that the principle can be advantageously employed as an aid in the treatment of constipation.

Another valuable auxiliary in the treatment of constipation is carbonic acid gas, particularly in those cases of insufficient peristalsis due to an elongated and over-stretched colon with contractile power much below the normal. The gas may be allowed to flow into the bowel until distention is noticeable to the patient, then permitted to escape; the process being repeated ten or twelve times at a treatment. If such treatments are given daily an appreciable increase in natural peristalsis soon becomes apparent in the average patient.

The Importance of Intestinal Lesions in the Prognosis of Pelvic Tuberculosis.—The prognosis in operation for tuberculosis of the tubes and ovaries depends almost entirely on the extent to which the intestines have become involved. Where there are no intestinal adhesions, the operation is comparatively simple and safe. Where only the large intestine, rectum and signoid flexure are involved, all adhesions both to the pelvic organs and to the peritoneum should be freed with the greatest care and vaginal drainage established.

SOME PHASES OF TABES DORSALIS.

By Benjamin D. Choate, Louisville.

The importance of a plan of procedure for patients with locomotar ataxia can scarcely be overestimated. The medical treatment will hardly suffice unless supplemented by hygienic, dietetic, physical and disciplinary measures.

The amelioration of the patient's symptoms and the degree to which comfort and longevity can be given him stand in direct relation to the promptitude with which the diagnosis is made and proper treatment instituted. Every patient who consults a physician for an ailment of any kind aside from the acute infectious diseases and who comes complaining of pains, vesical shortcomings, altered genetic instincts and capacity, or any of the symptoms of the general neurasthenic condition should be carefully put through the tests requisite to reveal the existence of tabes.

The necessity of this statement is impressed upon us as our experience with the disease increases. The patients who have been treated for gout, rheumatism, appendicitis and who have been operated upon for imaginative disease, stricture of the urethra or rectum, spinal cord, tumor, and other diseases "too numerous to mention" testify to the truth of this.

At an early date it might be quite impossible to satisfy one's self of the existance of tabes, the symptoms vary greatly and one might say that the clinical appearances of the disease are almost protean. With every case however, there is always a group of symptoms and signs which, taken together, are quite distinctive.

Two or three are invariably present in every case and as they constitute the earliest signs of the disease they will be considered first.

First. Westphal's sign, absence of knee jerk, also Achille's jerk, is the most constant sign of tabes and is often present a long time before others appear. It varies in the early stages, and may consist of an inequality of the jerk, absence of one knee jerk but in no instance should it be considered extinct unless the plan of reinforcement and all precautions are taken to elicit it.

It may also be well to recall that it is diminished in advanced age, fatigue, and exhausting illness.

Second. Argyll-Robertson, pupil is almost as constant as is Westphal's sign.

It consists of loss of response to direct illumination, with preservation of pupillary contraction on convergence of the eyes gazing at a distant object, sluggish or absent reaction has been noted in chronic alcoholism, chronic lead poisoning and meningitis. The shape of the pupil is an important factor. In the majority of cases they are oval or pyriform.

Third. Romberg's sign consists of the inability of the patient to stand securely with the feet close together when the eyes are closed. We may also find it in certain forms of puerperal neuritis of the lower extremities, chronic arsenical neuritis or chronic alcoholism.

In some cases the swaying is so slight that we may be in doubt if a true Romberg exists. We may then have the patient sink to his feet the uncertainty of station is then so conspicuous that there can be no mistaking it.

Fourth. Lancinating pains (lightning pains, electric or spot pains) are extremely characteristic. They are frequently called rheumatic pains by the patients and treated as such. They usually occur in paroxysms, are described as sharp jabs, knife-like in character, and rarely spreading over large areas.

They are frequently attended by cramp-like contractions of the muscles and followed by great tenderness of the parts.

The arms and legs are most often affected, and in some instances the intense pain limited to one single spot on any part of the limb. Sometimes the girdle sensations may be accompanied by girdle pain which, when it occurs, is usually very severe. The groins also are favorite places for the appearance of these pains, whereas the trigeminus and upper cervical nerves are only rarely affected.

Very rarely the paroxysms are, accompanied by temperature increase, vasomotor crises, local edema and agglutinations.

Fifth. Anesthesia, analgesia, delayed sensation and paresthesia are constantly seen early in the disease. Frequently analgesia of the lower extremities with preservation of all other forms of cutaneous sensibility is seen.

The sensory disturbances on the other hand may consist simply in delayed transmission of the impulse so that 10 or 20 seconds after the examining finger or instrument is removed the patient perceives the touch.

Paresthesias are very common and usually take the form of tingling, numbness or burning sensations.

As the disease progresses the ataxia begins to appear, and the patient realizes that there is diffcult of locomotion. This usually appears insidiously at first as a slight stumbling when walking over uneven surfaces, a sudden giving way of the knees when walking down steps and soon he realizes that it is necessary to watch the ground carefully while walking. The ataxia may never progress beyond this point, but in well-developed cases the gait soon becomes unsteady, staggering, slow, the heel planted down first in an awkward manner. In advanced stages it becomes impossible to walk without support.

Ataxia of the arm is rarely so well marked as in the legs but betrays itself in the inability to perform delicate coordinate acts, writing, buttoning the clothes, etc.

Impairment of bladder function is almost constantly seen in well-developed cases. There may be inability to completely empty the bladder through lowered tone of the vesical wall or there may be sphincter hypotonus causing inability to hold normal amounts of urine in the bladder. On the other hand there may be complete incontinence as a result of anesthesia of the sphincter.

The rectum may be similarly affected but obstinate constipation is most frequent.

Of the cranial nerves the optic is most frequently affected in the form of bilateral atrophy.

The affections of the vago-glossopharyngeus are so intimately associated with the crises that they can be considered together.

The crises belong to the visceral distrubances of tabes and consist of paroxysmal cramp-like affections of the viscera with or without pain.

The most common are gastric crises which occur as sudden spasmodic contractions of the stomach, causing nausea and vomiting. They usually occur without the least warning have no attributable cause, last for a few hours or several days and then disappear as suddenly as they came. During the attack very little can be retained by the stomach and alarming loss of weight is sometimes seen. During the intervals between the attacks the stomach behavior is quite normal and digestion unimpaired. If the attack is severe hematemesis may result.

Intestinal crises occur, but they are more rare, much less painful and characterized by evacuation of large mushy stools. Laryngeal crises are much less frequent than gastric crises. They are really attacks of spasmodic coughing accompanied by a distressing sense of dyspnea and oppression over the precordial region. Vesival and rectal crises,—painful spasms of bladder and rectum with sudden emptying of their contents are also often met with.

The commonest and most striking trophic disturbance are the "arthro" pathies. They were first described by Charcot, they have been found in almost every joint in the body, but occur most frequently in the knees. Suddenly and without warning the joint tissues begin to swell. The paste becomes hard, non-fluctuating, painless, as a rule, without temperature and often reach an enormous size. The arthro-pathies are frequently accompanied by abnormal brittleness of the bones and spontaneous fracture may occur.

DIAGNOSIS.

The only safeguard against error in diagnosis is most careful physical examination of every patient who has any of the recognized symptoms of the disease. The existance of one cardinal physical sign plus typical changes in the cerebrospinal fluid is sufficient data for a diagnosis.

TREATMENT.

Success in the treatment of locomotor ataxia has kept pace with the development of knowledge of the nature and cause of the disease. Though usually regarded as incurable, persistant and methodical treatment does more to stay the development of the pathological process, and to prolong the time of the victim's usefulness than in any other organic systemic disease of the nervous system.

The treatment of the disease may for convenience sake be referred to under separate heads. Syphilis is the only causative factor that will be considered. Neurologists have not agreed as to the advisability of giving antisyphilitic treatment. Some like Charcot have steadily held that such treatment is useless in every case of true tabes no matter how clear a history of previous leutic infection the patient gives, unless the initial lesion was of recent date.

On the other hand Erb and many others who have had colossal experience with this disease, state that every case of tabes giving syphilitic history should be put through a vigorous course of antisyphilitic medication.

The recent developments in the study of cerebrospinal fluids furnishes us with important indications for the use of antisyphilitic remedies and at present we should be guided by this alone.

On the other hand if it is not possible to have the fluid completely examined, every patient who developes tabes within ten years after the initial lesion should be subjected to vigorous treatment.

These evidences are persistent pains, extension of pains to new areas, development of crises or rapid development of paralytic phenomena. A high cell count of the cerebrospinal fluid and excess in globulin mean activity in tissue lesions and they should be treated in the same way until this disappears. The time is too soon to say whether a cell count that has yielded to treatment may increase at a later date. At all events it is well to control these cases by lumbar puncture at stated intervals and treat them accordingly if the cell count rises.

It is just as well after diagnosis is complete to disregard the Wassermann reaction in the serum or fluid since it may persist after the most vigorous treatment.

The selection of the remedy has, to a certain extent, modified by the addition of Ehrlich's salvarsan, but the time is not yet ripe for the final opinion as to the relative merits of salvarsan and mercury. But the belief is at the present time that the value of salvarsan is far greater than mercury in the treatment of all syphilitic diseases of the nervous system. It is best administered intravenously in .6 gm. doses and repeated frequently.

TREATMENT AGAINST MORBID PROCESSES.

Innumerable measures have been suggested to counteract the progress of the morbid conditions forming the basis of locomotor ataxia. The majority have been found quite worthless.

Drugs that have received far greater credit than they deserve are ergot, belladonna, arsenic, phosphorous, gold, etc., whatever properties they possess is due to the improvement of general nutrition or to their symptomatic effect. The most common experience is to find that patients have been treated by giving great quantities of iodide of potash, but it is at the present time conceded that it does no good.

A few years ago Brown Sequard startled the professional and lay public by claiming for the rejuvenating properties of the extract of the testicle. But it is now known not to have been attended by sufficient success to warrant in recommending it in the treatment of tabes.

SYMPTOMATIC TREATMENT.

The pressing claims are the relief of the lancinating pains. These may be so severe and so unyielding to other therapy that they demand the use of opium but this should be kept to the last resource.

Usually the pain can be controlled by the coal tar derivatives or one of the newer preparations, pyramidon.

Hot baths and hot applications are of service, some relief perhaps by massage, mechanical vibration, dry sups, etc. The gastric crises often respond to oxalate of cerium and cocaine. While the gastric crises last the patient may be given nutritive enemata. Vesical crises demand the use of morphia at the beginning.

Retention and incontinence of urine frequently call for special handling aside from the direct mechanical treatment, such as regular catheterization and washing out of the bladder with sterile water.

GENERAL TREATMENT.

In latter years the measures we have to rely upon more and more are those that might come under the head of physical treatment, including hydrotherapy, balneotherapy, electrotherapy, massage, purposeful movements, suspension and rest. These, when carefully studied and applied, do great good.

The management of the individual will oftentimes be as difficult as the disease. He must not expect too much but the physician must remember that he is human and do what he can to encourage and cheer him in the face of his distressing affection and to insure his faithful attention to the numerous small and exacting details of treatment and to keep him from the hands of charlatans and quacks.

DISCUSSION.

Curran Pope: I have listened with a great deal of pleasure to this paper. It is on a subject in which I have been interested for a number of years, and about which I have some well-defined ideas. I am inclined to believe that the diagnosis of locomotor ataxia does not present such difficult problems as we are sometimes led to believe. To my mind the greatest difficulty lies in the fact that we are not at all times alert for organic lesions of the spinal cord, but where we are constantly on the lookout for organic lesions of the cord, we can hardly miss a well-defined organic spinal lesion like tabes.

I would like to call the attention of the society to a fact that is seldom recognized; namely, that women suffering from locomotor ataxia do not have as much ataxia of the lower extremities as men. This is largely due to the fact that a woman is compelled to use her feet in walking without the aid of the eye, while a man intuitively uses his eyes to a considerable extent in placing his feet when walking. A woman's skirt naturally prevents her from seeing her feet, and she walks without the aid of the eye and is, therefore, better trained in the use of the limbs cerebrally rather than ocularly.

The first point I would call attention to is the unsystematic, inaccurate and improper sensory examinations made by a great many neurologists as well as the average physician. Probably the most enlightening period of my professional career was when I had the privilege of seeing Henry Head and Gordon Holmes, of London, make a sensory examination of the cutaneous surface, which revealed to me the absolute fallacy of 90 per cent. of examinations made with gloves, cotton wool, etc., and I found that I had been guilty of many mistakes in sensory examinations which I have since been endeavoring to correct.

Why is it that some of these patients have anesthesia of the ulna side of the arm? Why do some have optic atrophy and others other symptoms? Why is it that the symptoms vary so much in ataxics? Russell has been able, by means of injections of the spirochetae into the testicles of rabbits, to produce syphilis in these animals, and has subjected them to a number of interesting experiments to determine the question whether function governs the symptoms in locomotor ataxia. For instance, after syphilizing some rabbits he subjected them constantly, for hours at a time, to interrupted light, such as you have seen on the stage, the interruptions being produced by a wheel containing windows. By throwing this interrupted light into the cage containing the rabbits, he was able to produce optic atrophy. He subsequently had the good fortune to see a man with incipient locomotor ataxia who had developed optic atrophy after a day's march over the snow in Canada. The reason for the anesthesia of the hand on the ulna side rather than the radial side, is because that side of the arm constantly strikes the body when swinging to and fro in walking. On this principle, the shoemaker is apt to develop ataxia in the upper extremities and the soldier in the lower extremities, because in their respective occupations, these parts of the body are used, functionally, more than any others.

If the diagnosis is in doubt it can be readily settled either by Nonne's test, or along the line of the latest work of Alzheimer in connection with the various cells now found in the spinal fluid. Nonne's method is a test for specific reaction of both the blood and spinal fluid as well as a study of the cells. Alzheimer draws from 4 to 6 c.c. of the fluid, washes it in normal saline solution, and centrifuges it at high speed. Then he washes it in 95 per cent. alcohol, then alcohol and ether, and then ether, and it is then cut with a freezing microtome. The varying cells found in the centers enable one to differentiate between general paresis, locomotor ataxia, syphilitic spinal lesions, and other syphilitic infections of the cord.

Personally, I have very settled ideas concerning therapy in locomotor ataxia. I have seen great good results from the use of mercury. The iodides, in any dosage, at any time, I never give, I believe the iodides are productive of denutrition, not only of the general system, but of the nervous system especially, and that harm is constantly done by giving these drugs. That opinion was expressed by me in an article published in the "Alienist and Neurologist" in 1896, and I have since had no reason to change it. Aside from mercury, I have very little or no faith in drugs. I agree thoroughly with the essayist that the treatment of locomotor ataxia is nutritional plus an educational problem. The man who knows how to build up and keep up the nutrition of a locomotor ataxic, and can educate him mentally, morally and physically, can get results than cannot be secured by a man who does not know how to accomplish these things. There are many ways of accomplishing these results. For me to go into them in detail would consume too much tie. Recently I have been trying out flooding the spinal cord with blood, if one may express it that way, by means of diathering. Throwing 1500-3000 miliamperes of high frequency current through the spinal cord with the idea of thereby materially increasing the circulation, just exactly as we use the same method for flooding the heart muscles with blood, thereby increasing the nutrition of the heart walls. Of all the currents, the galvanic is undoubtedly the most effective for this purpose. The static current sometimes helps the pain and does good. The faradic and other currents are valueless.

Massage, education, and constant and persistent hydrotherapy is the general line of treatment to be followed in these cases. An absolute essential lies with the general practitioner; he should diagnose these cases early. Our surgical brethren insist upon early diagnosis in everything and if the diagnosis can be made, surgically or neurologically, sufficiently early, we can oftentimes stop this dread malady, enable the patient to recoup and live a life of usefulness and value to the community.

Louis Frank: Do you mean that the patient will actually improve under the various methods of treatment you mention, or that the disease is simply held in abeyance?

Curran Pope: That would depend entirely upon the character of the lesion. If we have to deal with an acute syphilitic lesion—in other words, if Nonne's test is positive, then we should undoubtedly administer mercury, with two objects in view. First, to check the disease if we cannot do any better. However, we may have a specific gummatous condition to overcome, or an radiculitis, or some other condition of that nature, in which, by causing absorption, we would be able to relieve the patient.

I decline to treat nervous syphilis where the patient refuses to take mercury hypodermatically. I would just as soon amuse myself by pouring water from one cut to another as to give antisyphilitic treatment by the mouth to patients with neuroleutic conditions. Hypodermically administered we know exactly how much we are giving, and we can figure accurately on the results. I do not believe in following the mercury with iodides.

B. D. Choate, (Closing): In closing I wish to state that the chief reason for my writing upon this subject was that recently a number of these unfortunates have fallen into my hands, and all give a history of the slowness of a diagnosis. Then later they have tried further quack remedies, and find much to their bodily harm, and the emptying of their pocketbooks.

I also desire to thank Dr. Pope for his liberal discussion.

CLINICAL CASES

SOME ACUTE INFECTIONS TREATED WITH MIXED VACCINES AND NUCLEIN.

By William Sanders, Louisville.

Bacterial vaccines used in the treatment of acute and chronic infections are an adjunct not a cure-all. Yet when properly and cautiously used remarkable results are obtained. They can be used in general practice without the aid of a laboratory diagnosis, with only clinical symptoms as a guide, if one will properly prepare the patient.

By properly preparing, I mean using any general measures that look to the advancement of the entire well being of the patient, that is, to correct any existing pathological condition or functional fault not due to the infection. The elimination and circulation should receive special attention. Vaccines should not be expected to produce a cure in a person whose vital forces are taxed to the utmost in combating toxins absorbed from a loaded bowel. If there is pent up pus it must be evacuated. The lymphatic circulation should be increased by the administration of citrates or acetates, either as such or in the form of citrous fruits as originally suggested by Wright. It is possible that the lymph possesses antibodies in the highest degree. Hot applications to increase the circulation of the inflamed area will materially assist in the treatment.

Some years ago I heard Crile, of Cleveland, suggest the use of nuclein to promote the efficiency of vaccines. Large doses of nuclein will increase the number of leucocytes and an active leucocytosis is necessary to success in every case, for the bacteria must be phaygocyted and destroyed even after they are opsonized. Therefore I have given nuclein in every case that I will mention in this report.

I believe that the mixed vaccine can be used in any infection with beneficial results. In my mind it is impossible not to have a mixed infection in nearly every case.

These are the first seven cases in which I have used nuclein and combined vaccines, not seven favorable ones picked out of a longer series, and I want you to note the uniform results. I have an idea, it may be erroneous, that the administration of nuclein will enable one to get better results with less vaccines than by giving vaccines alone.

The nuclein given is made by Abbott, of Chicago, and is put up in tablet form. Two to be dissolved and absorbed from the buccal mucous membrane every two hours. The vaccines were Van Cott's formula.

CASE I.—PUERPERAL INFECTION FOLLOWING RETAINED PLACENTA.

Mrs. C., multipara, on May 14, 1912, was delivered of a living child by accouchment force during a period of eclamptic coma, which lasted ten hours. She had two convulsions before and two after delivery. Everything went well until the fifth day, when her temperature rose to 102° and the abdomen became very tender, lochia scant and odorless. Examination revealed the uterus full of dark clots. These were removed under anesthesia on May 20th using the finger as a curet and the endometrium painted with pure tincture of iodine. In this case nuclein was given as soon as the temperature arose. The next day there was no improvement and late that night I gave 1 c.c. of combined vaccines. In the morning the temperature had dropped to 100° and the abdominal tenderness had decreased. On May 23rd the temperature arose to 101° and the second c.c. of vaccine was administered, and in 24 hours after the second dose, the temperature became normal and the pain and tenderness had disappeared. She had an uneventful convalescence.

CASE II.—INFECTION FOLLOWING LACERATION OF THE HAND.

C. B., age 40, stationary engineer, on June 10, 1913, he caught his hand in the machinery of the engine. The index finger was torn off and the middle and ring fingers were so badly lacerated that amputation seemed absolutely necessary. No bones were broken but the skin and periosteum was completely torn off from the dorsum of the first phalanges of each finger and the heads of the bones were exposed. The patient importuned me to try to save his fingers, and I did so, and on June 13th, as was expected, the hand and arm was very much swollen and tender nearly to the elbow. Nuclein was given as soon as the swelling began, and one c.c. of vaccine was administered in the evening of the 13th. In a few hours the pain lessened and nearly all the swelling had gone before the second dose was given on June 16th. There was no reaction in this case. The vaccines undoubtedly saved this man's fingers and now he has a useful hand.

CASE III.—CARBUNCLE.

J. L., age 50, barber, had been suffering a week with a carbuncle on the back of his neck before I saw him September 4th, 1912. The swelling extended from the external occipital protuberance to the seventh cervical vertebra. It was discharging pus from several openings in an apex about the size of a silver dollar.

Better drainage was established and nuclein given on the 4th. The vaccines were administered in c.c. doses on the 5th and the 8th. Hot applications were used throughout. The swelling and tenderness began to disappear about four hours after the first dose and the patient resumed his occupation on the 10th and was discharged on the 13th.

CASE IV.—SCARLET FEVER AND DIPHTHERIA.

O. F., female, age 20, student, came home at noon November 6th, 1912, complaining of sore throat. I saw her at 1 P. M., the next day, temperature 101 3-5°, pulse 118, scarlet rash on face and body, tonsils red and inflamed, and covered with spots. In short she had all the symptoms of scarlet fever with a severe angina. The usual remedial measures were instituted. At 10 A. M. the next day the rash was more pronounced and a membrane had formed on the left tonsil. The temperature was 102 2-5°, pulse 122. Deglutition had become very difficult. Added urotropin and nuclein to the medicines. I had Dr. Allen examine a portion of the membrane from the tonsil and he reported finding streptococci, staphylococci and diphtheria bacilli. At 4 P. M., November 8th, the temperature was 104° and the pulse 130. I then administered 3,000 units of diphtheria antitoxin into the intracapsular space and at 9 P. M., the temperature had dropped to 102 3-5° and the pulse to 120. Patient resting better. November 9th, 9:30 A. M., temperature 101 4-5°, pulse 118. The membrane was disappearing from the tonsil. I then gave one c.c. of mixed vaccines and in two hours the temperature arose to 102 1-2, but at 5 P. M., it had fallen to 101 1-5 and the pulse to 108. The patient was feeling very good and was hungry. November 10th at 11 A. M., the temperature had fallen to 99 1-5°, pulse 88. Rash nearly gone. Membrane gone. Rested well during the night, very hungry. November 11, temperature normal, pulse normal. Rash completely disappeared. Her convalescence was uneventful.

In this case I believe that the nuclein enabled me to get a remarkable result with a very small dose of antitoxin.

I have had equally as good results in a number of other cases, but time will not allow me to report them in detail, so I will mention only a few more.

In a case of cellulitis following scarlet fever in a boy of seven, the tenderness disappeared in twelve hours and the swelling in three days after an injection of 1-2 c.c. of the mixed vaccines.

In a case of infection on the hand of a baby ten months old that had resisted all treatment for six days, the pus disappeared over night following a dose of five minims of the vaccines.

A case of facial erysipelas in a baby of five months was completely arrested in four days by two doses of five minims each, given on the first and third day. The first dose in 36 hours brought a temperature of 103° down to normal. On the third day the disease began on the other side of the face, but this was cleared up over night by the second dose. These cases received nuclein throughout the course of the disease.

I could go on and report many more but these will serve to illustrate the character of results that I have obtained.

DISCUSSION.

Virgil E. Simpson: From the reports of results secured from the administration of mixed vaccines, one would be justified in assuming that vaccine therapy is a very simple procedure, and that in the near future practically all diseases will fall a ready prey to our onslaught.

I cannot agree with Dr. Sanders that we can treat these cases from a clinical standpoint and ignore laboratory findings entirely. I am quite ready to concede that sometimes the clinical findings and the laboratory findings do not agree, and where the clinical symptoms are sufficiently apparent, we may, to a certain extent ignore the laboratory, but that in the large majority of instances we can diagnosticate the nature of the infection merely from the clinical manifestations thereof, and by the administration of a "shotgun" vaccine secure uniformly good results, is a little more than my experience with vaccines would justify me in expecting. Vaccine therapy is based upon the cardinal principle that a vaccine, to be effective in a given case, must be made from the particular micro-organism that is causing the trouble we seek to remedy. We can no more expect to secure good results in a case of erysipelas, for instance, by the administration of a staphylococcic or a colon bacillus vaccine, or a mixture of the two (unless that particular case of erysipelas is primarily dependent upon these varieties of micro-organisms) than we can expect to secure good results in the treatment of diphtheria by the administration of anti-tetanic or anti-rheumatic serum. I am willing to admit that, where the site of the infection is inaccessible, or where, for any reason, we cannot submit proper specimens to the laboratory for examination, fairly satisfactory results may be secured in some instances by guessing at the nature of the infection and administering a corresponding vaccine, but wherever the site of the infection is accessible, and we can secure a specimen and send it to the laboratory for examination, it is certainly our duty to have such examination made, and then administer a vaccine made from the germs which are found to be the cause of the trouble.

I would urge that a more careful investigation of the cause of the trouble be made, because if we refrain from doing this and depend solely upon the clinical manifestations and the use of Somebody-or-other's mixed vaccines promiscuously in these cases, we will do vaccine therapy an injustice and will cause to fall into disrepute a remedy that, judiciously and scientifically administered, is really worth while.

Wm. Sanders, (Closing): I think the "proof of the pudding is in the eating," and the proof of the efficacy of the treatment I have employed is the fact that my patients got well in very quick time, despite the fine-spun theories and hard and fast rules that may be laid down by scientific doctors.

I had still another case of erysipelas in a man about fifty years of age, with a temperature of 105. If I had waited for laboratory diagnosis in this case the patient would have died before cultures could have been grown and vaccines made. The administration of Van Cott's vaccine brought the temperature down from 105 to 101 and made a mild case out of a severe one. Twenty-four hours after the first dose of vaccine was given the delirium passed away and the case became a very mild one.

We can usually get good results in chronic infections from autogenous vaccines. However, I had an autogenous vaccine made for a man laid up with sciatica, caused by an infection, and the first dose came near killing him. He had as severe a reaction as I have ever seen, and he said he would never take another dose. Nevertheless, it put him on his feet. With Van Cott's vaccine we get very little reaction; it is not necessary to nearly kill the patient to get results.

Subjective-Objective Sounds in the Ears.—Botella has found about forty cases on record in which a rhythmic sound originating in the blood-vessels or muscles was perceived by the patient and was audible also to others. In a case in his own practice a child of 6 was anemic but otherwise normal. The parents noticed a moaning sound in the mastoid region, synchronous with the pulse and disappearing on compression of the carotid artery. Under cod liver oil the anemia improved and the sound ceased to be heard, disproving the first assumption that it was due to aneurysm. The anemia alone must have produced it. In another case a man of 32 had complained of sounds in his ear for three months. They ceased only when he bent his head over to that side. The sounds were audible to others and seemed to be located in the internal carotid. They disappeared permanently after catheterization of the eustachian tube although the tube had not been obstructed.

REMOVAL OF FOREIGN BODY BY USE OF BRONCHOSCOPE.

(REPORT OF CASES.)

By W. D. LEVI, Louisville.

CASE I.

The first case is that of a child, M. P., age 21 months, referred to me June 6th, 1912, by Dr. Kirk. This child is the son of a farmer and had had no other disease than whooping cough from which he had just recovered. On the afternoon before we saw him he had been seen playing with grains of seed corn and on that evening became markedly dyspnoeic. When we saw him in my office his respiration was rapid and labored and he was extremely anxious in appearance. Examination with laryngeal mirror failed because he could not be held still. He was taken to an infirmary and anesthetised. By passing the smallest bronchoscopic tube into the larynx we could see a grain of white corn incarcerated in the oedematous subglottic space during inspiration but not during expiration. The bronchoscope in this case enabled us to make a positive diagnosis as to the condition of the larynx and showed us the nature and position of the foreign body. A 21 months larynx is very small and the inflammatory swelling induced by the foreign body reduced the space so much that we determined that the conservative route was through the trachea. Accordingly we performed a low tracheotomy and the corn presently appeared at this point of least resistance and we lifted it out. We inserted a trachea tube and left it in for twenty-four hours when we removed it and closed the wound.

Either because the swelling had not sufficiently subsided, or the larynx became exhausted or because the bronchial and tracheal secretions were too copious for the child to expel (probably all three factors were responsible), the child became violently dyspnoeic again and we re-introduced the tube. Dr. Kirk administered stimulants and the child went on to an uneventful recovery. Two days later we removed the tube for the second and last time and permitted the wound to close by granulation. Child was dismissed from the hospital on the seventh day.

CASE II.

On April 15, 1913, I saw C. P. Jr., age three years in consultation with Dr. J. P. Shacklette. Six days before the child's mother had endeavored to remove a nickel from his mouth with her finger and succeeded in pushing the coin down out of finger reach. Whereupon the child refused food and took only a minimal quantity of water. After the child had starved for four days Dr. Shacklette was called in and asked me to see the case with him. The patient had one degree of fever, negative chest, negative larynx and retention of urine. The mother's account showed that the child was a "nickel in" but on physical examination was so all around negative that we decided that the X-ray was the most practical solution of the difficulty. This skiagraph made by Dr. Keith the next morning showed the coin at the point of election in the esophagus. The patient was taken to the Children's Hospital where he was anesthetized and the coin removed by means of the bronchoscope and bronchoscope forceps. The child accepted milk and poached egg that evening and was discharged from the hospital on the third day. Dr. Shacklette reports that there was no further trouble. The coin had produced an extensive erosion on the back wall of the esophagus and there was some chance of stenosis. The moral of this case is that when a child refuses food for several days without assignable reason, the esophagus should be held under suspicion and the radiographer be permitted to make a plate of the neck and chest which will either make a positive diagnosis of foreign body in the esophagus or eliminate that part of the patient's anatomy from the problem.

DISCUSSION.

J. M. Ray: I have been very much interested in these cases, although I have done very little of this class of work.

The first question in connection with these cases is that of diagnosis. When a child gets something in its throat, the question comes up whether it is lodged in the oesophagus or in the larynx. A small foreign body in the larynx sometimes does not cause much disturbance. It is hard to locate, and if it is a substance like a grain of corn, the X-ray will not help much. When a large foreign body gets into the oesophagus, it usually lodges just opposite the thyroid cartilage which is the narrowest part of the oesophagus, and it has been my experience that, in many cases, an ordinary coin-catcher is all that is necessary to remove it. With the bronchoscope we can determine just where the foreign body is located after which it can be removed with a coin-catcher about as easily as anything I know of. I know of one case in which the bronchoscope failed to remove a foreign body and the coin-catcher brought it out.

It is hard to tell from an Xray picture whether a foreign body is in the oesophagus or in the trachea. I know of a case in which a child swallowed one of the little gold pins used to fasten children's clothing, and developed severe dyspnea and coughing. The child was examined by a general practitioner who said that the lung was congested and that the foreign body had gone down the right bronchus. I used a tracheal tube to examine the child, but could not find the pin. An X-ray picture was made from the front and showed the pin distinctly, just about opposite the bifurcation. I fished around for quite a while and failed to get it, and after waiting an hour or two another X-ray picture was made which showed the pin in the stomach. This shows that we must be very careful in making diagnosis in these cases.

When the foreign body is well beyond the bifurcation, I think we can get better results by doing a low tracheotomy and removing it in that way, rather than by trying to pass a tube through the trachea into the bronchus.

J. Garland Sherrill: This is an exceedingly interesting topic. It seems to me that there has been a great advance in surgery of the larynx and trachea, especially with respect to the removal of foreign bodies, and the same might also be said of the removal of foreign bodies from the oesophagus.

It is a well known fact that nearly all foreign bodies in the oesophagus lodge at the narrow point mentioned by Dr. Ray. We can nearly always locate a coin by the sense of feel, especially in children, although in adults, particularly those who are short and fat, we may not be able to feel it. In children, however, we can easily feel a coin in the oesophagus and can sometimes remove it with an ordinary coin-catcher. I would suggest that in such cases the child be placed with the head down, so that when the foreign body escapes it will be through the mouth rather than into the stomach. I would also suggest that it is a good plan to have an assistant place his fingers below where the coin is felt, thus enabling one to engage it in the coin-catcher.

With expert manipulation of the bronchoscope a coin may more readily be removed from the oesophagus or trachea than by other methods. It is remarkable how well one can see these objects. I have had some experience in the use of the bronchoscope and it is an excellent aid in making diagnoses of conditions in the oesophagus. Certainly it would be very difficult to remove a grain of corn or wheat that has gone beyond the bifurcation of the trachea by any means other than the bronchoscope. The location of these foreign bodies is by no means easy, even in the best hands, and if allowed to remain are apt to cause considerable disturbance. For instance, the pressure of a coin, or an open safety pin, or any rough object in the oesophagus would be liable to lead to ulceration and perhaps, eventually, to constriction of the oesophagus.

I think the doctor is to be congratulated upon the results he has obtained in these cases.

W. D. Levi, (Closing): I haven't anything particular to add, except to say that these patients with foreign bodies in the oesophagus usually reach us after they have starved for a week, taken very little water, and been severely traumatized by blind instrumentation with probangs, coin-catchers and stomach tubes. The constant pressure of the foreign body causes superficial or deep ulceration of the side wall and the instrumentation causes inflammatory swelling which pouts around the edge of the foreign body ferrule-wise rendering view and removal of it extremely difficult. These cases should be treated exactly like other surgical cases. They should be seen early preferably, and if seen late should be fed and watered per rectum long enough to make them fit subjects for surgical anesthesia.

FRACTURE OF INFERIOR MAXILLA, TREATED BY LANE'S PLATES.

(REPORT OF CASE.)

By Jno. B. Richardson, Jr., Louisville.

Mrs. B., age 34, married. No children. Case referred by Dr. Lindenberger. Seen at Deaconess Hospital September 8th, 1912.

Previous history negative. One week previously while asleep in tent was awakened by intruder. Patient attempted to awaken husband; was then struck in head and rendered unconscious. Husband was attacked and they were both found next morning still in a dazed condition.

Patient was seen in a neighboring city and the following is given by her. The physician failed to recognize presence of fracture and attempted to extract a loosened tooth. Made several unsuccessful efforts to do this. Woman remained in hospital until she came here and was seen by Dr. Lindenberger. Fracture was noted and patient removed to the Deaconess Hospital.

Anesthetic was given and the following condition was found: Compound fracture of left inferior maxilla, at its angle.

Proximal fragment extending into mouth and three quarters of an inch completely denuded of all soft structures. This was undoubtedly produced at the time attempt was made to extract loose tooth as on examination all teeth were sound and no loose ones noted. The upper fragment was evidently extending mouth and that this was pulled upon there can be no doubt. Soft structures about opening were infected and covered with streptococcic membrane. Effort to replace upper fragment only partially successful. Molded splint of plaster of Paris used but we were unable to place fragments in apposition. The question of wiring the upper to lower jaw was considered and discarded because of the inability to properly treat later the interior of mouth.

On September 10th, 1912, anesthetic given and plating done; incision made over fractured area, careful effort made to keep out of interior of mouth. This was only partially successful. With assistant's hand in mouth the fragments were easily brought into apposition and plate applied. Screws were shortened because of danger of entering cavity of bone and injuring inferior dental nerve. Alignment of teeth seem to be perfect.

During the next few days care was taken in opening the mouth for cleaning its interior. After that no special effort was made to protect fracture and patient had no pain on opening or closing mouth. On eighth day sinus opened through incision and drainage of pus continued until plate was removed at end of sixth week.

Some injury was done to the communication between the terminal branches of the facial nerve as a slight facial paralysis presented a few days following operation. This was clearing up when patient was last seen and when she last wrote was nearly completely gone.

This case is reported for the reason that I think not many plates have been used in this location. It was quite easy of application and in spite of infection our result was a perfect functional one.

DISCUSSION.

Albro L. Parsons: I had the pleasure of assisting in this operation. I believe there is a wide field for it in floating fractures. The men who have done the most work along this line have laid down one or two principles. In the first place, it is not necessary to plate every fracture. A good many men seem to have forgotten that we used to operate on these fractures, reduce them, put on a plaster cast and get good results. As Dr. Richardson stated, however, this could not be done in the case he reported.

Another principle that has been laid down is that we should never plate an infected fracture. While we recognize that this was an infected fracture, the fact remained that it had to be held in position by some form of internal splint, and the procedure carried out seemed the most rational thing to do, and I think the result obtained in this case justifies the belief that there are times when an infected fracture should be plated.

Guy P. Grigsby: I had the pleasure of seeing this case, and I am free to confess that, for the first week, I did not feel very hopeful of a good result. However, we must bear in mind in these cases that the longer we can leave the plate in, the better the chance for union.

I was very much impressed with the ease with which this fracture was lined up, after getting down to the bone, and also the ease with which the plate was applied. Dr. Richardson first tried it out on a cadaver and familiarized himself with every phase of the operation before starting. I think he is to be congratulated upon the result obtained.

The average fracture of the inferior maxillary can be treated successfully by wiring the upper and lower teeth together, but the situation of this fracture was unusual and there was no way of holding it except by means of a plate. While we were sure that infection would occur, still it appeared to be the only thing to do under the circumstances..

M. Casper: In view of the mass of evidence against the use of Lane's plates in infected fractures, I think the doctor is to be doubly congratulated.

The tendency to employ Lane's splints is increasing every day, and I believe that, as the technique of the procedure attains a greater degree of perfection and is better understood, the results will be better. The trouble is that very few men use these plates exactly as Lane does, and they are not as careful in their technique; consequently secondary infection occurs in a great many cases. The tendency now is to use thinner plates and shorter screws. In a thin bone like the maxilla it is very difficult to keep the screws from entering the central part of the bone. A screw with smaller threads and more of them than the one ordinarily used, would be better. The old screw that has been used heretofore is not the right kind of a screw at all.

W. C. Dugan: Just a word in regard to the use of Lane's plates in infected fractures. I do not believe the result in this case warrants the conclusion that we would be justified in using these plates in an infected fracture anywhere else in the body. This was an exceptional fracture of the jaw, and I do not believe Dr. Richardson, or any of the other speakers, would attempt to plate an infected fracture in any other portion of the body, although I think he did exactly right in employing that procedure in the case reported.

One point I wish to bring out is the danger of infringing upon the nerve in a case of this kind. However, if, in applying the plate, we will go well below the lower border of the bone, the nerve will not be interfered with, as it is never found below the middle.

I will never forget the first time I used nails in fixing fractures I had grave apprehensions in regard to my ability to get the nails out, but when I took off the dressings and prepared to remove the nails with a big pair of forceps, they proved to be so loose that I believe a good shake of the limb would have caused them to fall out. It matters not wehther we use short screws or long screws, they will cause pressure necrosis and in a few days do not act as screws, but simply as pins. The plate is not solid enough after the first few days.

Jno. R. Wathen: Sherman, of San Francisco, has, I believe, about solved the problem of the proper screw to use in connection with Lane's plates. If I remember correctly, the original Lane's plate was a large thick one, with a large wood screw. Later on when it was found that there was no necessity for making the plate so thick, it was made of what is called vanadium steel, which allowed him to reduce the thickness considerably. Then another difficulty was encountered. The threads on the machine screw used with this plate were all of the same width and almost parallel, which allowed it to work out too soon, as pointed out by Dr. Dugan. One would say that, theoretically, this screw was a big improvement over the old one, but the threads on it were too small; they mashed the bone and would not cut it. Sherman, of San Francisco, overcame this very nicely. He devised a screw with a thread cutter such as is used for sutting threads on the inside of iron nuts and pipe, with a channel in the center which takes care of the cuttings. He first drills a hole in the bone and then introduces the screw which is a little larger than the drill. The thread cutter enables it to secure the strongest possible hold, which is certainly of great advantage with the thin plates that are now being used. This technique is superior to anything I have seen in connection with the use of Lane's plates.

Jno. B. Richardson, (Closing): The screw used in this case was the ordinary wood-screw with the end cut off, and it held sufficiently well to secure firm union.

In regard to Dr. Dugan's remarks, I cannot say that I would not plate an infected fracture in any other portion of the body. I can conceive of compound fractures becoming infected that we would be unable to hold by any means other than a plate, and under such circumstances I would certainly plate it. In the case reported there was marked infection, with pus constantly coming from the wound, and it seems to me that, if this bone united in the presence of pus, bones in other portions of the body might do the same thing. Of course, I realize that the danger might be greater in some of the long bones, but I do believe that in compound fractures that we are unable to hold together by any other means, we are certainly justified in using plates.

I do not want to be misunderstood as saying that every fracture should be treated this way. A great many men are using the plates indiscriminately, and are thereby doing great injustice to their patients. We have been able to obtain good results from the old methods, but in those cases where the old methods will not secure good results and we know that we can obtain perfect functional results by the use of Lane's plates, it seems to me that we should give our patients the benefit of this procedure. We no longer fear to enter the peritoneal cavity, so why should be fear going into the bone? Personally, I would no more fear entering an infected bone than I would the peritoneal cavity. The same is true of joints. I have entered some of them under circumstances that were very adverse, and have never had an infection.

PAPILLOMA OF THE BLADDER.

(REPORT OF CASE.)

By J. A. O. BRENNAN, Louisville.

Mr. B. white, age 60, weight 175, not married. Has had both gonorrhoea and lues. Has been an excessive drinker and smoker, always enjoyed good health until a few months ago. Present trouble dates back about one year. After a protracted spree he noticed for the first time he voided blood, which continued for some time and stopped after taking some medicine which was given him. On November 5, 1912, he presented himself to me complaining of hematuria which he said was not constant. The blood was not macroscopically evident, but after a microscopical examination it was present in large amount. Albumen was also present but no evidence of any kidney lesion. He has not lost any in weight and his appetite remains good. A cystoscopic examination was made and a diagnosis of a multiple papilloma of bladder was made. He was operated upon February 12, 1913, and a suprapubic cystostomy done and the tumors removed and the base of each one cauterized. His convalescence was uneventful. Since leaving the infirmary he has developed a marked sciatica of the left leg which has caused him a great deal of suffering and so far has obtained but little relief. Have requested him to return for further examination but as he is trying another doctor for his sciatica he thinks it best to wait a while before returning to me. He has lost a great deal of weight since his leg commenced to bother him and he notices at times his urine is high colored. It appears from his present condition as if we had a cancerous growth to deal with and his pain in left leg might be a metastatic condition. By some unaccountable and inexplainable reason our specimens were misplaced which deprives me of omitting the most important feature of this case report and that is the pathological findings. When he presents himself for further examination and if theer are any evidences of a recurrence I will with his consent try fulguration as that method of dealing with these tumors has been very flattering.

DISCUSSION.

Leo Bloch: I would like to ask Dr. Brennan what precautions he took, in removing the growth through the abdominal wall, to prevent a recurrence in the incision. I have seen instances where this occurred. Practically all of these growths are malignant and will recur. There is hardly any doubt that Dr. Brennan's patient now has a recurrence.

J. Garland Sherrill: Dr. Brennan was courteous enough to show me this case in his office one day, and it was a beautiful specimen of the condition described. The bladder findings were typical; there was a large cauliflower mass floating around in the fluid in the bladder.

While I believe that a good many cases of papillomata of the bladder are malignant, I cannot agree with Dr. Bloch that they are all malignant. The history of this case, with the subsequent development of sciatic pain, would arouse strong suspicion of malignancy. Possibly the patient has metastasis in the cord, or infiltration from the bladder over to the sciatic nerve locally. Certainly it is a case to be watched with care and the final findings wil be of great interest.

L. L. Solomon: Inasmuch as sciatica is a very common condition, it seems to me that the appearance of sciatic pain in this patient, who has been operated upon, does not carry with it any more than a suggestion that this pain is due to a tumor, malignant or otherwise. Dyscrasias are so common, medically, in which sciatic pain is the chief or one of the commonest symptoms, that it seems to me (although I know nothing about this particular case) the pain may be a mere accidental or incidental condition.

F. T. Fort: It is a question in my mind whether or not this sciatica is associated with the villous growth. It may be a coincidence; we see sciatica when there are no growths in the bladder or elsewhere that are discernible. The pain of sciatics will pull an individual down from one to ten pounds a week, and this might explain the loss of weight in Dr. Brennan's patient. However, I think it would be well to keep him under observation and examine him occasionally with a cystoscope.

While some of these growths are malignant, the majority of them are not, and will not recur if we get them out thoroughly.

J. A. O. Brennan, (Closing): These growths were enucleated at their bases, which were cauterized with carbolic acid. One was as large as a walnut, with a pedical half an inch long. This was grasped with haemostats and cut to the surface of the bladder, and cauterized with carbolic acid followed by alcohol. The patient did beautifully after the operation and suffered very little, but when dismissed from the infirmary he developed a sciatica. I had Dr. Moren see him, and he did not think it amounted to very much.

Against our advice, the patient went to Martinsville with practically no benefit. He still has this so-called sciatica in his left leg; the right is absolutely free from pain. He has lost a good deal of weight and his appetite is very poor. At the present time I understand his doctor is giving him rheumatism phylacogen, and he claims that just as soon as the weather becomes warm he will improve.

The recurrence of the colored urine in this case makes me very suspicious of malignancy, possibly a metastatic condition in the inquinal glands, the sciatic nerve, or the lumbar glands. I do not know just how to explain the condition of the left leg.

SUPERFETATION OR ARRESTED DEVELOPMENT—WHICH?

(EXHIBITION OF SPECIMEN.)

By Harry A. Davidson, Louisville.

Patient, aged 33, married nine years; has one child five or six years of age. Was pregnant four months at the time she miscarried. I was called to see her one morning and found her complaining of uterine cramps, with great vesical irritation, urinating every few minutes. After getting her history I examined her and found that she had an anteflexion of the uterus. The body of the uterus was under the symphysis pubes and doubled on itself, so that the body of the uterus and the cervix were right next to each other; I could not get my little finger between them. It was with some difficulty that I pushed the fundus of the uterus up above the symphysis, which somewhat relieved the vessical irritation. I put her to bed and gave her morphin hypodermatically, and also uterine sedatives by the mouth, to relieve the uterine pain. I was called back that evening and found that she had miscarried. I may say that this miscarriage was, no doubt, induced by a long automobile ride.

When I arrived, a trained nurse was there and all preparations had been made. When I examined her I found that she had delivered this smaller foetus. It was an eight or ten weeks' foetus, entirely within the sac, floating around in the amniotic fluid. I recognized that the age of this foetus did not correspond to the period of pregnancy, so I went up into the uterus with my gloved hand and found another foetus, this one about four months, corresponding to the period of pregnancy. I removed it, with the cord, and then removed the placenta. The placenta that corresponded to the four-months foetus came away very easily but I had to go into the uterus and pull off the smalled placenta.

The question is, was this a case of superfetation, or of arrested development. Looking up the literature on the subject left me in doubt, because very few cases of superfetation have been reported. One French obstetrician says that it is possible and reports cases, and says that other cases have been reported. He claims that it is possible for a woman to have a foetus in the uterus for, say two months, and then become impregnated again, and that this can happen up to the time the placenta is formed, about the third month. If this is true, then it is possible for a woman who is two months pregnant to become impregnated again, and at the end of two months longer, she would have in the uterus one foetus four months old and one two months old. On the other hand, other obstetricians say that such a thing is practically impossible and that these are, in all probability, cases of arrested development; in other words, that one foetus has a larger placenta and gets a better blood supply than the other, and that, as a result, one child develops normally, or even larger than normal, while the other is abnormal in its lack of development.

I think there is very little doubt that we do have superfecundation; that is, two impregnations of the same woman within a short time. A number of cases of that kind have been reported. For instance, one in which a woman had intercourse with a white man, and a week or two later with a colored man, and gave birth to two children, one colored and the other white. Another one that I recall was where a woman had intercourse with her husband who was a syphilitic, and a week or two later she had intercourse with another man, and gave birth to twins. One of them had syphilis while the other was healthy, showing that the two children came from different fathers. That was a case of superfecundation, but where the two pregnancies occur from two to four months apart, it is called superfetation. Personally, I am inclined to believe that my own case was one of arrested development, although it would be almost impossible to prove that it was not a case of superfetation.

DISCUSSION.

Edward Speidel: This case presents a number of interesting features. First, the condition of the uterus in a woman who had already borne children was unusual. It is very unusual to see anteflexion of the uterus in a multipara, although it is frequently found in sterile women. The very fact that there is acute antiflexion of the uterus prevents conception, but we very seldom see that condition of the uterus in a woman who has given birth to a full term child.

I was glad to hear Dr. Davidson mention the apparent cause of the miscarriage, as I have endeavored to emphasize on numerous occasions the fact that riding in automobiles predisposes to placenta previa. If the chauffeur is careless and the woman is subjected to considerable jolting, the ovum is dislodged and we have either inevitable or threatened abortion. If the latter, then later on in the pregnancy we will usually have a case of placenta previa.

I am inclined to believe that Dr. Davidson's case is one of arrested development, for this reason: Placental development does not take place until after the pregnancy has progressed about two and one-half months, and it is not uncommon, in a twin pregnancy, to see one foetus considerably larger than the other. I should judge that this foetus had developed all of three months as evidenced by the placental formation, and then retrograde changes took place: one foetus developed at the expense of the other.

A. C. L. Percefull: I would like to ask Dr. Davidson whether or not the extent of the development of this foetus could be determined by microscopic examination of the tissues? It seems to me that it might throw some light on the subject to make a microscopic examination of the tissues of both foetus. If the tissues show the same degree of development it would prove the case to be one of arrested development rather than superfetation.

H. A. Davidson, (Closing): The authorities I consulted made no reference to microscopical examination of the tissues in such cases. I do not believe we could determine the age of the tissue by examination under the microscope. Of course, from the embryological standpoint, it would seem that we would be able to tell the difference in the age of the tissues if there was any, but I believe that deficient blood supply to one of them would also result in an arrest of the development of the embryologic organisms.

Sarcoma and Myoma of the Uterus.—Sarcoma, Miller says, may occur in about 2 per cent. of all myomatous uteri.. The primary mortality of the operative myoma therapy is still about 4 to 5 per cent. A lasting cure of sarcoma of the uterus by the operative treatment can only be expected in 25 per cent. of the cases at most. Considering the advantage of the Roentgen-ray over the operative treatment in regard to assured freedom from fatality, mistakes in the diagnosis of sarcoma amounting to 0.8 per cent. make little difference. When the public learns that not every tumor of the uterus demands operation, but that there are also efficient conservative methods, Miller says, we shall certainly be in a position to get hold of more malignant growths in the curable stage. In view of these facts, he believes there can be no further doubt that a routine operative treatment of myoma of the uterus for fear of sarcomatous degeneration, need not be carried out.

ANGIOMA OF THE HAND.

(EXHIBITION OF PATIENT.)

By A. C. L. Percefull, Louisville.

Patient female, white, age 12 years.

Family History: Negative. She had two brothers and one sister, none of whom have this condition. As far as is known, no member of the family has ever had a similar condition, so it is not hereditary. It is congenital, however. She had this growth on her hand when she was born, and it has gradually increased in size until now the middle and index fingers are extremely large as compared with the other fingers. She suffers no pain and no particular discomfort, except that the hand is quite warm from the excessive amount of blood in that location. The tissues are soft and spongy. The growth has a port-wine color and pulsation can be felt in many different places.

In reporting this case it is not necessary to enter into a discussion as to the classification of angiomata, nor to go into detail as to what causes them. We all know that angioma is a dilatation of the small blood vessels, and sometimes the arteries and veins as well as the capillaries; also that it is sometimes superficial and sometimes deep. In this case it is very deep.

I present this case for three reasons. One is, because I consider it an interesting case. Not that angioma is rare, but I do not recall having seen one in this particular location.

The second reason is that I hope to get some information from those who have seen similar conditions, as to the line of treatment to be pursued. Treatment by electrolysis, putting the electric needle into the growth and the positive pole somewhere on the body, has been suggested; also, actual cautery, ligation of the blood vessels supplying the affected part, and extirpation. Treatment with carbon dioxide snow has been recommended and successfully used in superficial cases, but I do not know whether it has been effective in deep cases or not.

The third reason is that I would like to know what prognosis to give the mother of this child; whether or not the patient will ever be compelled to sacrifice this hand.

Last fall this child was in the hospital for the same condition, and a week ago the mother called me up and said that the growth had begun to bleed. I have kept this bandage on the hand to prevent bleeding, and not in the hope that it will benefit the condition.

I would like to have the opinions of those who have seen similar cases as to whether or not ligation of the arteries that supply this growth, carbon dioxide snow, or any other measures will do any good, or whether the hand will ultimately have to be sacrificed.

DISCUSSION.

Jno. B. Richardson, Jr.: It seems to me that the proper thing to do in this case would be to amputate those two fingers, well back into the hand. Of course, an effort should be made to save the hand, but ultimately I believe it will have to be sacrificed.

Irvin Abell: I have had occasion to employ boiling water injections in several cases of this kind. The objection to that is the widespread necrosis that follows. In all probability the necrosis of the tendons governing the two fingers would necessitate their ultimate removal. Like Dr. Richardson, I believe the safest way out of it would be to amputate the two fingers at the present time.

Wm. C. Dugan: This is one of those cases of enlargement of the small blood vessels, and I am quite sure that there is involvement of the entire muscular structure of that portion of the hand, and I believe the injection of any fluid that would destroy this condition would result in necrosis. Dr. Richardson's suggestion is the only logical solution of the problem, and I would amputate early, because, if left alone it will probably involve the entire hand in a short time.

A. C. L. Percefull, (Closing): I have very little to say in closing, save to thank the gentlemen for their discussion. I gave the mother of this child very little encouragement as to the ultimate prognosis. I told her that, in all probability we would have to sacrifice the hand at some time or other, but that I would do everything I could to save as much of it as possible. I doubt very much the advisability of amputating these two fingers, because the growth extends so far into the hand that the hemorrhage would be troublesome. I do not believe the condition is altogether confined to the capillaries. If amputation is to be done, I believe it had better be done beyond the growth and not through it, as has been suggested by those discussing this report.

Magnesium Sulphate in Eclampsia.—Guggisberg was disappointed with the outcome in the two cases of eclompsia in which he applied Meltzer's intraspinal magnesium sulphate treatment. When the action of the drug is restricted to the lower portion of the spinal cord, the therapeutic action is inadequate. But when the drug is sent to the upper part of the spinal cord—by raising the lower part of the body—the drug effectually reduces the tendency to convulsions but the method ceases then to be harmless. Disturbances in breathing may be anticipated. The method should not be attempted outside of an institution where medical supervision is possible all the time.

MEDICAL PROGRESS

DEPARTMENT OF PEDIATRICS.

By PHILLIP F. BARBOUR, Louisville.

PROGRESS IN PEDIATRICS.

Eczema in children is quite frequent and very intractable. The various forms of treatment which are effective in adults often prove disappointing when applied to the child. It is thought by many that there is a definite relationship between eczema and digestive disorders in children. In order to arrive at some definite conclusion a study of infantile eczema and indigestion was undertaken by Harvey P. Towle, M. D., and Fritz B. Talbot, M. D. They summarize their results as follows:

"Definite conclusions are, of course, not possible from this incomplete study of the etiologic relationship of indigestion to infantile exzema. Tentative conclusions may perhaps be allowed, in such fashion it is suggested that

1. The acutely inflammatory form of eruption in infantile eczema presents so many features which are constant in occurrence and in form that its claim for consideration as a definite, fixed type of disease deserves further attention.

2. For directly opposite reasons, the less intense inflammatory form of eruption cannot lay claim to such consideration.

3. The stool findings show that the indigestion of fats and of carbo-hydrates are the only types which can be demonstrated to accur with any regularity and definitness in association with infantile eczema.

4. The occurrence of the acute exudate type of eczematous inflammation of the skin in such frequent association with an indigestion of fats and sugar indicates that the process in the skin and the process in the digestive tract probably have some etiologic relationship.

5. Contrarywise, the fact noted at the outset that the majority of infants presenting the same symptoms of indigestion described above do not likewise present a cutaneous reaction points to the inevitable conclusion that some underlying condition, probably systemic, which the eczematous infants possess, is lacking in non-eczematous individuals.

6. Therefore, indigestion must occupy an intermediate position, if any, in the mechanism of the production of eczema."

In the section of the Study of Diseases of Children of the British Medical Association, Dr. H. Charles Cameron, discusses "The Relationship of Summer diarrhoea and Summer Heat," his conclusions are. "That neither direct overheating of the child, nor disturbances of digestion, nor intercurrent infective disorders, nor direct infection of the alimentary tract, is sufficient of itself to explain the rise in the mortality from diarrhoea in the summer, but that in that rise each plays a part; that of all of the deaths registered as due to diarrhoea in the summer a small fraction only is due to bacterial infection of the alimentary tract; and that the progress of knowledge with regard to the prevention and treatment of diarrhoea has been not a little hindered by regarding the problem from a standpoint too purely epidemiological.

If so much is granted it follows that greater emphasis should be laid upon such prophylactic measures as the supply of an adequate quantity of water for the child during hot weather, the reduction of the carbo-hydrate percentage in the food, the use of cooling baths and of light and porous clothing, and the proper ventilation of rooms, courts and alleys. New York, which suffers so profoundly from the disease, has taught us a lesson in the prevention of rapid means of transport of overheated infants to the fresh and moving air of the sea coast.''

In the discussion of this paper Dr. Langmead said, ''That there were so many varieties of the condition called summer diarrhoea that it made the whole subject a very difficult one to speak on. It was difficult properly to criticise a paper of this kind in the present condition of ignorance of the flora of the intestinal tract in association with infantile diarrhoea. There seems to be several forms of infection. For instance, the infection most common in America differed from the most common in London. Those who had read the accounts of the New York epidemics must have been struck by the fact that the greater portion of children there passed blood and mucus in their stools, whilst a comparatively small proportion of the infants suffering from summer diarrhoea in London were choleraic cases whereas in America they were dysenteric. He took it that the infection in the two cases were not the same. It varied also in different epidemics in London, and cases at the beginning and end of a seasonal outbreak often failed to resemble those at the height of the epidemic. We could not yet say whether a particular case was due to a specific infection or to the direct effect of heat, environment, or faulty dieting.''

Dr. Langmead offers an explanation for a very marked difference of opinion and almost radical difference of treatment of summer diarrhoea, so called, as described in German, English and American articles. One has some difficulty in reconciling the very different teachings of the foreign and American schools in regard to this common and often fatal disease. The reviewer did not see in the London clinics the same type of diarrhoeal conditions with which we meet in this country. Their free use of opium would certainly be condemned by American pediatrists, but as Dr. Langmead has said, it is very probable that local conditions affect the disease to a very marked degree.

Dr. Gavin Fulton writes upon ''Pneumococcal Infection in Infancy and Childhood.'' ''It is a well-known fact that in infancy and early childhood, all bacterial infections have a tendency towards generalization but especially is this true in regard to those conditions which are due to the diplococcus pneumoniae of Frankel. It is true that the majority of primary pneumonias in children are pneumococcal, but it is also equally true that all pneumococcal infections are not pneumonia by any means.''

He believes that he has obtained success by the empolyment of stock vaccine. Theoretically, it seems autogenous vaccine affords better and more scientific results.

''In all my cases the stock vaccine experimental (P. D. & Co.) was used and I have no personal experience with the autogenous vaccine. Theoretically, it would seem the latter would afford the better and more scientific results, provided in the first place, time was no object and in the second place that it could always be made by a skilled bacteriologist who prepared it properly, and who is capable of estimating the proper dose in the individual cases. The second clause of this is more often true than the first. It is easy, I am glad to say, to find the competent bacteriologist but very frequently we have not the time to spare. Then again, what is true of the colon bacillus may be equally true of the pnumococcus strain, viz. a rapid tolerance is esablished for an individual vaccine, and consequently a series of autogenous vaccines would have to be made which would not only take time but would cost much money.

The stock vaccine could hardly be subject to this objection because of the multitudinous source of supply from which the raw material of the manufactured article must come.

I do not wish to go upon record to-night as having presented a positive specific for a very varied group of conditions, but I do believe the vaccines have come to stay, and that the pneumococcus vaccine will earn a place for itself in the treatment of pneumococcal infection.''

Dr. John Allan in a paper on ''The Treatment of Night Terrors in Children,'' suggests that the correction of the dietetic regime is of primary importance. These children generally get far too much starchy food and sweets.

All excitants such as tea and coffee should be suppressed. These children should have dinner in the middle of the day and not in the evening, and the evening meal should not be taken just before going to bed. If there is any obvious gastric or intestinal disturbance a strict dietary should be rigidly adhered to and proper outdoor life and exercise should be insisted upon. These children are often intellectually brilliant, they must be held back at school and some care should be taken as to the books the child is allowed to read. Exciting stories and especially ghost stories must be vetoed. The bromides are useful in these cases with any other tonic drug that may be indicated. Night terrors should never be neglected. An attack may not appear to be of much significance, but as some one very aptly said, "It is the slackened speed" of the engine driver which must never pass unheeded.'

Dr. George F. Still writing of "Pyelitis in Children, says, "The recognition in childhood is usually easy, and yet it is overlooked again and again simply because the possibility of its occurrence is forgotten as the urine of an infant is seldom examined. Unrecognized, acute pyelitis gives rise to prolonged and severe fever with profound constitutional disturbances which may be fatal. Recognized and treated appropriately it often subsides in a few days; even if the symptoms persist for a time they quickly become less severe and yield to treatment. The disease begins abruptly with a high temperature usually with a rigor, though the child may simply turn cold and blue and seem collapsed. These together with the absence of any other symptoms will mislead the physician unless he secures a specimen of the urine which is acid and commonly shows under a one-sixth objective, the average of about six to thirty pus cells per field, and here and there perhaps a group of ten or twelve stuck together. Usually, but not always bacilli can be seen either singly or in clumps but in a large majority of cases prove to be bacilli coli. The treatment consists of the administration of potassium citrate which should be given in 5 grain doses every two hours by day and three hours by night. The urine must be tested immediately upon passing with litmus and sufficient alkali must be given to alkalize the urine for at least ten days after the temperature has become normal. Hexamethylenamin or salol is very useful when the infective agent is other than bacilli coli.

Dr. Alfred S. Hess after discussing, "The Pathogenesis of Casein Curds in the stools of Infants," makes the following conclusions:

"The curds are always of gastric origin and their pathogenesis is always gastric. The intestines play merely a secondary role. From the intestinal standpoint the curds indicate merely the non-digestion of casein masses. The intestinal disturbance which at times accompanies the appearance of these masses in the stool, may be of gastric origin, or of the same origin as the disturbed gastric function; it is not caused by the curds, nor is it the cause of the curd formation.

We cannot close without considering whether this clinical condition is harmful, and whether therefore, therapeutic measures should be taken to obviate the formation of these curds. Although a healthy infant may thrive in spite of the curds, we cannot infer that they may not sometime lead to more serious disturbances. Furthermore, it is open to question whether foreign bodies of this size should be allowed to form and to traverse the intestinal tract. Diluted milk with barley water does not check their formation, nor does pasteurization to 147 degrees F. for forty-five minutes, a process which complies with the ordinances of the health departments of the various cities. Pasteurization to 170 or 175 causes the curds to disappear to a large extent, and therefore may be said to render the milk more digestible in these cases. We believe that the curds should not be allowed to persist, but should be checked either by a high degree of pasteurization or by boiling the milk."

Efficacy of Emetin in Amebic Disease.—Chauffard's communication was summarized in the Paris Letter in The Journal A. M. A., March 22, p. 917. His success in this case confirms the clinical experience of others and apparently demonstrates that emetin is a specific for amebic disease, like quinin for malaria. The young man had contracted dysentery in northern Africa and only transient improvement had been obtained by repeated courses of treatment with serotherapy and silver nitrate. After about a year a large abscess in the liver perforated into a bronchus and ran a debilitating course of alternating evacuation and retention of pus for five months, when complete recovery followed a five-day course of a soluble salt of emetin. The charts and Roentgen findings "before and after" accompany the article. The results observed explain the benefit from ipecac used empirically in Brazil. They also confirm the dual nature of dysentery—the bacillary form amenable to serotherapy, the emebic form to emetin.

SOME COMPLICATIONS OF LABOR.*

By W. F. Nichols, Munfordsville.

Not a generation ago the doctor who was regarded by the laity as possessing but very limited ability as yet often regarded as being good enough for the practice of midwifery. Such doctors being possessed of no more knowledge than could be obtained by reading a few old musty books and that gained by their undirected or misdirected experience in the field, came to be called by laymen by the dignified appellation of "Old granny doctors." There being no law regarding the subject, this condition led to the multiplication of untutored midwives; and the poor victim who lost her life through one of the many complications arising in the hands of these bunglers, was regarded merely as another victim of the wrath of God, and so .
ally closed.

We are glad to say that such conditions are rapidly passing away; and even while there is no adequate law regulating the practice of midwifery by women, yet through the elevation of the profession of medicine, public sentiment is rapidly exterminating the midwife. The practice of obstetrics is now regarded by most of the public as one of the higher branches of medicine and you no longer hear of the "Old granny doctor." This I think has been accomplished mainly through the careful and efficient practice of the subject by the later school of well-trained physicians, who have learned the value of aseptic treatment, and are sufficiently bold and aggressive to meet the emergencies of abnormal presentations, eclampsia, placenta previa, and post-partum hemorrhage.

Every physician should absolutely decline to accept an obstetrical call unless he is well equipped to meet all the emergencies that might arise. An iron-clad rule with accouchers should be "Never trust to good fortune to tide you through a case without needing the necessary appliances and instruments to meet emergencies."

Of the complications of labor I shall briefly discuss four; abnormal presentations and positions, puerperal eclampsia, placenta previa, and post-partem hemorrhage.

Abnormalities of presentation and position are numerous and frequently met with in the ordinary run of practice. I shall mention only those presentations and positions in which delivery is impossible or extremely difficult. In any of the transverse presentations, whether shoulder, abdomen, or back, unless transformed by manipulation or spontaneous evolution, delivery is impossible. If the physician arrives in time, and has a patient with sufficiently thin abdominal walls and a medium amount of amniotic fluid, he can sometimes succeed in changing these positions by external manipulation; but the great trouble is that after working half or three quarters of an hour he gets the head in position, as soon as he releases his hold a moment it promptly resumes its former position. In other words it won't "stay put." I usually find it best to wait until dilatation is sufficient to warrant it and do a podalic version. In this, of course, two things in particular are to be kept in view; first, the tendency of the foetus may be to rotate occiput posterior as the version is being done, which must be prevented by any means possible; second, the arms are apt to become fixed between the foetal head and the pelvic brim. This should be prevented is possible, by sweeping the arms forward with the index finger first on one side then the other. Care should be taken that they do not sweep backward, as in that case you would get a dislocation if not a fracture of the humerus.

After getting the head in proper position at the pelvic brim and both arms cleared, delivery must be terminated as speedily as possible to present death of the child from compression of the fundus. This should be facilitated by slipping the first two fingers of the hand up to the child's chin and mouth and flexing the head by judicious traction. Use the left hand in case of an r. o a. position, and the right hand in case of a l. o. a. position. If more than five minutes elapse after the cord becomes compressed before delivery of head, you may most always count on a dead child. In a few cases of oblique presentation which bade fair to give plenty of trouble, by waiting and watching the most logical thing to do. I have seen the foetus rectify itself as the pains progressed promptly descend and give no trouble at all. If the rotation is posterior in any case of breech presentation, the chin is likely to become caught behind the symphysis and extension being produced delivery is arrested. This is rectified by pressing the head back, getting hold of the chin and producing flexion, bringing the chin into position below the symphysis and hastening contraction. Do not use traction on the feet as this favors extension of the head. I knew of one case in which delivery was thus arrested and delivery being impossible, the attending physician resorted to decapitation. The body being delivered and out of the way, the head was rotated into normal position and delivered by forceps. This was justifiable on the grounds that the child was already dead, and delivery otherwise seemed impossible.

I have seen one case in which after a tedious labor in a persistent posterior podalic presentation delivery was accomplished spontaneously after the head had been engaged some twenty or thirty minutes. Of course we had a dead child.

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*Read before the Hart County Medical Society.

Face presentations may be delivered spontaneously but usually with more or less distortion of the face. It is perhaps better when the condition is recognized in time, to do a high forceps delivery, converting the face to a vertex by means of the forceps and removing the forceps as the head engages in the pelvic brim. The same may be said of the brow presentation except that the expectant method should never be used in the brow cases, but the conversion should be attempted very early.

I have had one case of perfectly normal cephalic presentation where after hours of hard labor, light convulsions set in. I called a consultant and we attempted a forceps delivery; but neither of us nor both of us together could effect a delivery after an hour's persistent effort. We did a podalic version, brought down the hands, applied the forceps, made strong traction on the forceps and the feet at the same time, and after some twenty or thirty minutes of this effort succeeded in delivering a medium-sized foetus. It had apparently been dead a week or more. No attempt at podalic version should be attempted except under anesthesia unless it is contraindicated; but properly used, I think the podalic version is the solution of more abnormal positions than all other remedies combined.

Puerperal eclampsia was formerly considered purely an uremic manifestation. Not half a dozen years ago I encountered a case of post partum convulsion of severe type in which the urine had for some time been under observation, and had not shown a trace of albumin. As the case was a breech presentation and abnormally prolonged, it was thought by myself and another physician with whom I discussed the case to be the result of the prolonged pelvic pressure.

While no one has yet told us definitely what the causes of puerperal convulsions are, we are convinced that there are several underlying causes all resulting in the multiplication and liberation of toxins into the circulating media of the body at any time during the pregnant, parturient or puerperal period. I am convinced that these toxins are purely "katabolites," i.e., poisonous waste materials formed during the last stage of assimilation in which the breaking down process is taking place. They should be and ordinarily are eliminated by the five great organs of excretion: the skin, the lungs, the bowel, the liver and the kidneys; but when these are in a lethargic state or overworked by the greater amount of toxins thrown upon them, these "Katabolites "being cumulative surcharge the system to the limit of endurance and the explosion comes. In the earlier stages of conception it usually manifests itself as the dreaded "emesis gravidarum," though even in the earlier months it may come as a convulsion.

Convulsions seldom occur when you expect them. The reason I think is at least partly explained by the fact if a physician expects such a thing in time he usually adopts proper eliminative treatment and keeps them off. Convulsions are sometimes preceded by premonitory symptoms; as, tinnitus aurium, twitching of face and other muscles, but more often a sudden blindness. Often, however, the first intimation of a convulsion are the wide staring eye, the tensely set muscles of the jaw, the opisthotonos and the livid countenance of the attack. All attending women become frightened, sometimes running about and screaming at a rate to confuse the physician. Three things must be promptly done by the physician without any undue appearance of excited haste: first, produce the chloroform and arrange for its administration during the attack; second, procure a piece of soft wood half an inch thick, three quarters of an inch wide and three or four inches long to keep between the teeth during the clonic spasm which soon supervenes to prevent injury to the tongue; third, load a hypodermic syringe with ten minims of Norwood's tincture of veratrum viride and inject it through a large needle as promptly as possible. The first two duties may be temporarily left with trusty assistants, but should be resumed by the physician as soon as the veratrum has been administered. As soon as the attack has subsided, if it can be brought under control, with the assistance of a consultant if he can be had promptly, the uterus must be emptied. If the attacks continue the womb must be emptied even during the attacks. I often precede the delivery by a hypodermic of pilocarpin of reliable strength. I seldom use morphine to control convulsions from the fact that it locks up the secretions and retards the effects of the after treatment. If the convulsions recur after half an hour from the first injection of veratrum, I give a second of five or ten minims. Usually when the uterus is emptied, especially if followed by some hemorrhage, the convulsions cease to recur. Sometimes, however, they keep coming. In such cases resort must be had to morphine, chloroform, chloral, phlebotomy and any other means possible to control them. Once in a long while there is a case of puerperal eclampsia that yields to no known treatment and death supervenes in from two or three hours to two or three days. In the later deaths I have I have always suspected cerebral hemorrhage as the actual cause.

In occasional cases labor proceeds in the ordinary way until delivery is over when, suddenly and without warning the patient goes off into a hard convulsion.

I deal with the post partum convulsion in the same manner as the ante partum with of course, the exception of emptying the uterus. The after treatment of puerperal convulsions may be summed up in one word—*elimination*. Eliminate promptly, rapidly, thoroughly. Eliminate by purgatives, diaphoretics, and diuretics. Eliminate by means of croton oil in olive oil, by pilocarpin hypodermically, and the hot pack, and by critrate of lithia with the infusion of digitalis; I also usually give some bromides as a sedative.

I have had one case of convulsions followed for several weeks by a bursting headache, which I treated by every means I have ever treated a headache of any other character. The trouble finally passed away and the woman is to-day aparently in the prime of health.

My experience with placenta previa is limited to a single case, and that in consultation with another doctor. This was a marginal case in which the placenta barely reached the internal os. The attending physician had the matter pretty well under control when I arrived; the hemorrhage was controlled by head pressure and the woman was having rapid and hard pains. Delivery of a healthy baby was completed within an hour and half after my arrival, but this was immediately followed by an alarming post-partum hemorrhage. We hurriedly delivered the placenta by internal manual means. We gave ergot, used the bimanual method of stimulating uterine contraction, and used hot intra-uterine douches for nearly an hour until we had things apparently under control. After watching the case for awhile longer, we went out to eat breakfast. We had not more than half finished the meal when one of the women ran into the dining room to tell us that the patient was having a hemorrhage. We hurriedly sterilized and prepared to pack. Before we had got the hemorrhage under control the blood had flooded the bed, soaked through several folded quilts and the mattress and puddled on the floor. Unfortunately neither of us had any gauze along. We had it at home but that being ten miles away, it was too late to send for it. We had dispatched a man to the nearest drug store for it when the first hemorrhage came on, but he soon returned to report no gauze there. The next best thing was a clean sheet. This was procured and a strip torn from it and used as packing. It stopped the blood all right, and was left in place till the next afternoon when it was removed, using a hot bichloride douche 1-5000 to soften it. Everything progressed well for three or four days, when the expected puerperal sepsis set up. The result was a long fight with a post uterine cellulitis, ultimately followed by such adhesions that an operation to break them up was necessary. This being done, the woman promptly recovered, and is to-day a typically healthy woman.

In case the previa is complete, the best solution is rapid dilatation with as little damage to the placenta as possible, perforation if it, podalic version, bringing down the buttock as a tampon. The saving of both mother and child, in placenta previa, depends upon a bold and rapid delivery, dealing with the hemorrhage immediately afterward.

Of post partum hemorrhage I have but little to say in addition to the above. If there is any suspicion that any of the placental tissue or any of the membranes are left behind, they must be removed promptly even by a whole hand exploration if necessary. If, as is often the case, the hemorrhage is from uterine inertia, the Crede method is usually sufficient. If that with the administration of a drachm of the f. e. ergot does not succeed within half an hour, I next resort to the bimanual method while I am having a fountain syringe sterilized and hot water prepared. If the bimanual method fails after a few minutes to control the flow, I use the intra-uterine douche as hot as can be borne, protecting the vulva and lower vagina by carbolized vaseline. This is practically always successful. If not resort must be had to the gauze pack. Expose the parts, introduce a Graves speculum, have an assistant steady the cervix by a vulsellum, and by means of a long dressing forceps pack gently but firmly with two-inch strips of either plain or iodoform gauze. The most rigid asepsis must be observed or the after effects will be anything but pleasant. The gauze should be removed within thirty-six hours, first using a sterile douche to soften it. It is seldom that anything more is necessary in post partum hemorrhage following tedious labors or slight uterine intertia than the Crede, or at most the bimanual method if persisted in long enough. I have controlled a case in a very young primipara with inertia following a long tedious labor after nearly two hours of the bimanual manipulation.

A PECULIAR CASE OF APPENDICITIS.*

By C. N. Goldsborough, LaGrange.

On August 25th, 1912, I was called to see S. P., boy about 8 years of age, with following history: Was in usual health the day before and went to bed feeling well; awoke about nine o'clock vomiting and with pain in abdomen; threw up corn, beans, tomatoes and other things eaten at a six o'clock dinner; bowels running off, had two or three movements from bowels.

Following symptoms present: Temperature 100 degrees; pulse 84; tongue coated; slight tenderness over abdomen, not more marked over McBurney's point than elsewhere; pain over right kidney; abdomen not swollen; no tumor over appendix or in that region; expression good; pain not marked enough to require an opiate.

Diagnosis: Incipient appendicitis.

Treatment: Rest; ice pack applied over right iliac region 20 minutes in each hour; no diet; instructed to be as quiet as possible. I left some acetanilid compound to be given if pain became worse.

I saw him at 10 A. M. next day. As soon as I went into the room I was sure the appendix had ruptured. The anxious expression, the fear and anxiety of the face was marked. Temperature 97 1-2 degrees; pulse 120; the abdomen like a board in hardness.

He was immediately taken to an infirmary, and Drs. Koehler and Abell called, both of whom agreed that an immediate operation was necessary. This was done as soon as possible. On opening the abdomen the appendix was hard to get at and was found lying against right kidney. When brought into view it was gangrenous with a hole in apex, large enough for a lead pencil to be inserted. Several drops of pus were found around the opening in appendix. The appendix was removed, the wound left open with drainage tubes inserted. Patient was put to bed in the Fowler's position, but in spite of everything that was done he died on the morning of the 30th from sepsis.

Now, the peculiar thing in this case is that it was the first attack and in a perfectly healthy boy. 'Twas a very mild attack, so mild as not to need an opiate. After a good night's sleep he woke up bright and comfortable. At 8 A. M., got up to the commode, had a sharp pain and the appendix ruptured within less than 36 hours from the commencement of the disease. And, too, the finding of a gangrenous appendix full of pus, and the fatal termination in five days from the commencement of the trouble is very unusual.

I hope that my experience in this case may make you more careful and painstaking, and that you may not be so unfortunate as to have a case similar to this one with the same termination.

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*Read before the Oldham County Medical Society.

PUERPERAL ECLAMPSIA.*

By E. M. Howard, Rim.

In puerperal eclampsia or puerperal convulsions we recognize that particular kind of convulsions common to child-bearing women, and seen only during pregnancy or soon after delivery or abortion, premature labor, etc. It is a manifestation of symptoms of which we know something, and yet there is possibly a great deal we do not yet know.

ETIOLOGY.

As to the cause or causes of this trouble I believe we all agree that a poison or collection of poisons accumulated or being retained in the system of the pregnant woman is the cause of the puerperal convulsions. The general practitioner has so few cases as a rule that it is nearly impossible for any one man to study the trouble as each of us would like to do. Following are some of the causes as given by one of our leading authors:

1. Obstruction to the ureters owing to their being stretched, flexed, distorted or compressed by the gravid uterus.
2. Sudden hyperemia of the kidneys produced by cold and consequent suppression of perspiration.
3. Increased functional activity of the kidneys required during pregnancy to excrete the waste products from the fetus.
4. Increased blood pressure in the vessels of the kidneys from general arterial tension throughout the body owing to cardiac hypertrophy (physiological hypertrophy of the left ventricle) incident to pregnancy.
5. Mechanical pressure of the gravid uterus upon blood vessels—either veins, arteries or both—so as to disturb the renal circulation.
6. General increase in intra-abdominal pressure owing to tension produced by the expanding pregnant uterus and producing venous stasis in the kidneys.
7. Reflex vasomotor spasm of the renal arteries (and consequent renal anemia) originating peripherally from the uterus.
8. The alleged hydraemic condition of the blood incident to pregnancy.
9. Anomalous distribution of large blood vessels in the abdominal cavity, such ectopic blood vessels being more liable to mechanical pressure by the gravid uterus than vessels normally distributed.
10. Absorption into the blood of toxins

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*Read before the Bell County Medical Society.

from the intestine owing to deficient action of the liver failing to eliminate these toxic materials during pregnancy.

Some of the above I believe we will readily accept as playing a great part in the cause of this trouble, while some of the other mentioned causes we think have very little to do with the cause of it. But we do not know and believe that anything that tends to cause retention and accumulation of albumin or urea and other poisons in the blood and urine will tend to cause puerperal convulsions, if these poisons are of sufficient quantity. And here we may say that sluggish bowel movements and lack of exercise in the open air will cause the accumulation of poisons in the system, directly, and indirectly, by causing an increasing amount of work for the kidneys, which are already probably taxed to their capacity, and thereby cause an unmeasurable amount of toxic materials to be retainel in the kidneys and consequently taken up into the general system to poison and pollute the blood.

SYMPTOMS.

The group of symptoms attending puerperal convulsions and preceding the attack of the convulsions are such that once seen will never be forgotten: The swelling of the limbs, face and abdomen; the dizziness, the spots before the eyes, the intense headaches, likely to be confined to frontal or orbital region; fainting or near fainting, as preceding symptoms. And then at labor or preceding labor or probably following labor, to see the peculiar twitching of thel ips, eyelids, and muscles of the face in general, distortion in the extreme, with a marked rolling upward of the eyeballs; the clenched hands, total loss of consciousness, frothing of mouth, etc., produce a mental impression that wil remain with us for a long time if once seen.

PROGNOSIS.

The prognosis is always grave. The worst complication I believe that can arise is a condition or conditions that will render immediate delivery impossible or difficult, inasmuch as immediate delivery is necessary in a great many cases. Then of course the longer the symptoms have been coming on and the more severe they have been the worse is the prognosis.

TREATMENT.

If a pregnant woman presents herself with the symptoms of puerperal convulsions or with the symptoms that may later on terminate in convulsions, for when we hear thunder and see the lightning we do not know when, where or how hard it is going to strike. If seen in the early months of pregnancy I believe that elimination in every conceivable way should be practiced—that is, elimination that is in keeping with a condition of this kind—and practiced constantly: Diuretics, cathartics and even purgatives, if necessary, and diaphoretics will be our sheet anchor. We can all readily recall the number of convulsions of this kind that we have seen, but we may never know how many we may have prevented by recognizing a dangerous group of symptoms and treating them. Pregnant women, like all other women, are naturally constipted and will probably require a laxative regularly to keep the bowels well opened, and in this connection it is well to have our pregnant patients to remember the following:

> "When nature calls at any door,
> Do not attempt to bluff her;
> But haste away, at night or day,
> Or health is sure to suffer."

DIET.

I believe that he diet should be carefully regulated. We should undertake to nourish the patient with food that will tend to preserve strength and at the same time afford the least amount of waste materials that will produce poisons in the system, therefore, milk is the first thing that we should think of, and in my opinion the best. Fruits, a great variety of which will be found beneficial, and anything that will keep up the system without an excess of byproducts. Walking in the fresh air; sleeping in well-ventilated rooms, and plenty of rest and diversion, all are helpful.

CONVULSION PROPER.

With the foregoing preliminary we will give our attention to the convulsion proper, or the real thing upon which our reputations may be won, upheld, clouded or lost; upon which life and death depend; upon which the proper or improper management may depend the maintenance or loss of the most beloved of the family circle—the mother or the wife. This is another of the points in our career at which we will halt between two opinions—we see on the one hand an opportunity to act quickly, probably with instruments, and save a mother's life and get credit for a deed well done; we see on the other hand an innocent child whose chance for earthly existence may be obliterated by a rash act on our part. Shall we treat all our eclamptic patients with the speedy delivery method, or shall we be the least bit conservative? Is it better to wait and work and watch in some cases or not? This is, in my opinion, the most vital question with which we will be confronted in these cases, and this is the place where the cool-headed doctor who is willing to weigh all the evidence, who is neither too cowardly to do or not to do will succeed. At this particular stage of the game I am inclined to believe in not playing it too fast. In my limited experience I have found that it is well to begin with a routine work of elimination, after having given a remedy that is capable of controlling the spasm. And here I give hypodermically enough morphia sulphate to control the convulsion, and I have never yet seen it fail to control with only one exception, and then it kept the convulsion controlled for a short period of time. It is true that it will act as an astringent to the bowels, but on the other hand it will aid diaphoresis, and there is nothing better for them than a good copious sweating. After controlling the convulsions as above stated, then give a purgative of calomel and compound jalap powder aa grs. x to xx, followed by plenty of epson salts. If given in large doses as above stated this will act as a free purgative, despite the astringent properties of the morphia, and will at the same time promote free action of that important organ —the kidney. At the same time attendants should be preparing the patient for a hot pack or a hot bath, or more easily obtained, a dozen or more containers filled with hot water and placed under the bed clothing. This will promote profuse sweating, while the calomel is getting in its work. Now, there is something else we may well expect, or at least need not be surprised to see from the large dose of calomel and the compound jalap powder, and that is the onset of true labor pains. If they come on, which they have done in two of my cases following this treatment, your labor will progress as in any other case of labor and delivery will be by nature's method, assisted of course by the attending physician. If during this procedure of purging and sweating, etc., labor pains are not developed, then in course of a few hours your patient is likely to be lots better on account of the unloading of a large quantity of poisonous materials from the skin, bowels, kidneys, etc. If then the patient is no worse and the convulsions are controlled, I give veratrum viride fluid extract gtts. x to start with and continue, increasing dose if necessary, until pulse is brought down to 60 or 70 per minute, after securing a pulse of 60 the convulsion is not likely to occur for awhile. I have found veratrum to work well in these cases and control the convulsions, after having given the initial dose of morphia. However, if all means fail, which in one case they seemed to do in my practice, I believe in immediate delivery under as little anesthetic as possible. In one case I tried delivery under a general anesthetic, together with an able co-worker and practitioner, and the woman died when we had the cervix almost completely dilated, and thought we would soon be able to apply our forceps. She died in a convulsion, or what under the anesthetic seemed to be one. Whether the weakened condition of her heart caused probably by the chloroform caused death to ensue quicker than it would had we not used the anesthetic we cannot say, but I believe it did.

VENESECTION.

Venesection is recommended by most all authorities and I would be glad to hear from some one who has tried it, if theer is any one here that has. I believe bleeding would be good, but have not tried it.

STIMULATION.

I have used brandy, whiskey, and spirits aromatic ammonia in these cases as indicated, and think they served well in their respective place.

In closing will say that the most important drugs in this treatment will be found to me morphia sulphate, veratrum viride, calomel and compound jalaj powder.

I hope a fee discussion of this subject will bring out all the omitted points with emphasis.

MEDICAL ETHICS AS THEY ARE, AND SHOULD BE.*

By G. H. Albright, Barbourville.

I have been asked to prepare for this society a paper concerning ethics of the medical profession as they are and as they should be.

The first part of the subject stated could be answered in three words—we have none; at least during the twenty odd years in which I have been engaged in the practice of medicien I have found but little regard paid to the ethics of the profession. I am quite sure that every one of us know something of ethics and ethical practice; and if we have a doctor in this society, or in the county, who does not know right practice from wrong practice, we should, by unanimous vote of the society, request the State Board of Health to at once revoke his license to practice medicine in this Commonwealth.

A little further along this line of thought: I believe, gentlemen, that in our meetings—face to face with each other—is the time and the place to speak plainly upon all subjects and upon all questions pertaining to and concerning the advancement and upbuilding of the medical profession in Knox county.

We have all heard the Councilor from this district state before this society that the Knox County Medical Society stands at the head of the list of county societies before the State Medical Association; and we feel proud—as we should be—when we hear such commendable standing before the State Medical Association? It is our ability as physicians and surgeons? It is the learned papers read before the society and sent to the State JOURNAL for publication and disseminated for the education of the people generally; or is it because of our adherence to the ethics of our profession. My opinion is, however, that it is because of the hard-earned dollars received from the members of this society in the way of dues.

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*Read before the Knox County Medical Society.

During the past two years, while secretary of this society, I enrolled every reputable physician in the county as a member of our county society. But am sorry to say that I was never able, no matter how interesting the program or important the subjects for discussion were, to secure an attendance of more than one-third of the membership at our regular meetings, and a far less number to prepare and read papers before the society. But, to get back to the subject:

Now, gentlemen, ethically, are we entitled to be called doctors; or, on the other hand, should we be merely designated as "pill-peddlers?" This society has had a fee bill list; we have had a "black list;" and we have been able and willing—while together or in society assembled—to agree upon any kind of a list. But—and here lies the fault—where is the doctor who will refuse to sell, another doctor's patient twenty-five cents worth of tablets as soon as he returns to his office? This practice obtains, and no good can come from shutting our eyes to it. And as a result, the people are losing for us the respect to which we are entitled as members of our profession. Let's get above this, gentlemen; it is unprofessional; it is unethical, and what is more, in the end, it is unprofitable. Let's do real professional work in the true professional manner, and not be content to be designated as "pill-peddlers."

The practice of consultation is almost a thing of the past, and we are to blame for it. The consultation room is the place of all others to reveal the true character of the doctor—whether he is a sincere, honorable practitioner—a gentleman—or a treacherous weakling, seeking advantage and personal advancement at the expense or honor and of conscience, and who will underhandedly and sneakingly undermine the work of the attendant physician by remarks and innuendos to the patient or the friends of the patient. Men of this character are usually of poor ability, and utterly devoid of honor.

The duty of the consultant is two-fold. He should aim to be of the greatest aid possible to his professional brother, and at the same time give full value of his services to the patient. The consultant duty is equally divided between the attending physician and the patient; his work in the premises is intended to be an aid and asistance to both; for this reason, the consultant occupies a position that, frequently, is a delicate one; so much so that frequently the least sign—a simple shake of teh head, to use a common expression—will be observed, and become misleading to the patient and to his friends as well. Let me repeat: Be a physician and a gentleman at the same time.

MEDICAL ETHICS AS THEY SHOULD BE.

I feel confident there is not a doctor in this county who is not sufficiently versed in the ethics of his profession to know when he is treating his fellow practitioner properly. We know—all of us know—it is not professional to prescribe for another doctor's patient. No physician should ever take charge of or prescribe for a patient who is under the care of another physician (except, of course, in cases of emergency) until after the first physician has relinquished the case or has been properly dismissed. And whe none physician succeeds another in the treatment of a patient, he should not comment on the practice of his predecessor in the case. Such conduct inevitably tends to lower the esteem of the patient for the medical profession.

Again: When physicians, other than the family physician, have been called into a case, on arrival of the family physician, the others should immediately withdraw in his favor and out of consideration for him as the chosen attendant, and for the family wishes, as well.

I feel it unnecessary to comment along this line of ethical practice; for it seems to me a violation of the rules pointed out, is not only without excuse, but on the other hand, done with malice aforethought, to borrow a phrase from legal lore, and has but one purpose in view—that of personal gain; to get the other fellow's patient.

We all know with what pleasure and expectation of assistance we have met some consultants; and with what dread we have met others. Not because of their actions and conduct in the sick room or in the consultation room, but because of the nature and character or reports which afterwards reach us of their ill-advised statements to persons on the outside. All consultations should be private and inviolate; then, and then only, does one feel free to express his opinions and conclusions to the attending physician.

And now, gentlemen, in conclusion: Every honest and true physician will ever keep in mind the principles which should govern his thoughts and actions; for the best interests of the patient and attending physician, and the upbuilding of the medical profession. Keep in mind the influence of suggestions, for here is where you can aid the attendant in further conduct of the case, by leaving the impression that the patient is being well cared for, and that you expect good results. If all of us will keep in mind the Golden Rule "Do unto others as you would have others do unto you" the profession will be better off, and the community will profit thereby.

Cautery in Treatment of Cancer of Cervix.—Werder reports as at present living and well thirteen patients, 33 1-3 per cent., of these, three have lived eight years and more since the operation; three, seven years and more; two, over six years, and five, five years and over. Nine of the survivals were cases of vaginal igni-extirpation, and four combined. This leaves twenty-one patients whose death occurred within five years of operation, including two operative deaths. Of the nineteen patients who survived the operation twelve are known to have had a recurrence, the seat of recurrence being local in two, and in the inguinal, iliac and lumbar glands in ten. Two deaths were due to intercurrent diseases and in five patients cause of death is unknown. Death occurred within one year in seven, in two years in four, in three years in five, in four years in three. Eleven patients were less than forty years of age; of these only one is living at present.

Polyneuritis From Local Disturbance in Blood Supply.—In the case reported the polyneuritis developed in both legs with trophic changes in consequence of interference with the circulation in the legs during measures to keep the spark of life alive in a previously healthy woman of 24 almost moribund from the hemorrhage of a tubal abortion. The operation was brief but she ceased to breathe as she was replaced in bed. The assistants lifted up the arms and legs and this drained the blood back into the trunk and respiration started up spontaneously. The limps were kept raised, lying loose inp added splints, to maintain this autotransfusion. The patient complained of numbness in her legs but as the toes were warm no importance was paid to her conand were discardedshrdluadisleuritr-ditionshrdlu plaints. The splints weer gradually lowered and severe pains developed in both feet and both legs were discarded the fifth day. Two days later were paralyzed below the knees.

Ionic Medication in Herpes Zoster Ophthalmicus.—The drug used by Macnab has been sulphate of quinin, applied by means of the positive current over the whole area affected, for fifteen to thirty minutes, with a current of 1-1.5 milliampheres per square inch of surface. In general two applications at an interval of from seven to ten days were made to the skin area, and the conjunctiva was treated separately for a shorter time and with less current. The results have been that the neuralgic pains and the disturbed sensibility of the part have cleared up almost at once. The iritis disappeared and the sensation of the cornea and conjunctiva returned. As there is in every case some destruction of tissue, Macnab points out that a complete return to the normal cannot be expected, but so far as such appeared possible this form of treatment seems to provide a cure for this distressing affection.

Pathology of School Children.—Baginsky remarks that a number of pathologic conditions develop during school life which should be prevented or corrected. The group of symptoms which we call overwork or overfatigue should not be ascribed to congenital or acquired neurasthenia or a psychopathy. Myopia developing during school life is not in a malignant form and it can generally be corrected by reducing the number of hours devoted to near work. Curvature of the spine developing during school age is exclusively the consequence of too long sitting and especially too long writing. It is absurd, he adds, to bring into casual relation with school life a number of diseases which occur at the school period. He anticipates the dawn of a bette rday in regard to tuberculosis when medical school inspectors are on the alert to detect it, but adds that education of the public down to its lowest strata is the only rational means to protect

Chicken-Pox in Adults.—Staeubli had two young men, brothers, in his charge on account of pleurisy and influenza. They both were confined to their room and in bed most of the time from December 22 to January 17, when one complained of headache and the other troubles. Other symptoms developed suggesting small-pox. One of the young men then developed a typical varicella eruption, and the disease was also unmistakably varicella in the other patient but the diagnosis would certainly have been variola in this case if it had not been for the attending circumstances and the small number of leukocytes. With variola there is almost invariably high leukocytosis. The two young men had been shut in for so long that infection could have been only by indirect means, possibly by the intermediaation of more than one person. Staeubli had had no varicella patients for some time before and during his care of these patients. The rapid recovery confirmed the diagnosis.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 19 SEPTEMBER 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

COMMERCIALISM, CREDULITY AND A CRITICISM, A STUDY OF SOME OF THE CONDITIONS TENDING TO PRODUCE THERAPEUTIC ANARCHY.*

By V. E. SIMPSON, Louisville.

INTRODUCTORY.

The effort to modify pathology through the agency of drugs and other remedial measures antedates the earliest records of the healing art; accurate and scientific knowledge of their action is a development of the last half of the nineteenth century. Attempts to explain the effects of drugs on the human economy, in both health and disease, have been made since their initial use.

But little progress was made, however, because, firstly, the causation and pathology of diseases is a matter of modern knowledge and secondly, experimental pharmacology was an untried and uncharted sea. Rather tardily were the methods of research applied to the study of drug action that were so highly instructive in physiology and morbid anatomy but, since their adaption to laboratory and bedside investigation, the results have been equally as rapid and satisfactory. Possibly a third reason that has contributed not a little in retarding the progress of pharmacology is to be found in the apparent antagonism between the aims of the laboratory worker and the clinician; the one being concerned chiefly in the manner of action, the other in the removal of an abnormal condition. A better understanding of the mutual aims of these two classes has been reached and our knowledge of drug action is now marching, as with seven league boots to its rightful position among the biological sciences.

THE INTERNIST AND HIS TOOLS.

What with the phenomenal progress of recent years in mechanical therapeutics, drugs still remain an important factor in the physician's armamentarium. Aladdin rubbed his lamp and the genii appeared to do his bidding; the surgeon rubs his scalpel and the results are almost as marvelous.

Much physical distress has been relieved and a material contribution has been made to the average of human existance. But surgery is not a panacea; the internist is, as always, a necessity and his knowledge of therapeutic measures and a refined application thereof must keep pace with other departments. So long as the causes of disease were imperfectly known and drugs were used experimentally there remained a twilight zone of vast latitude in which the physician groped his way and had sufficient reason for his stumbling and tardy progress. Individual conclusions born of petty experience were inevitable; dogmatism was excusable and multiplication of remedies for a given condition, the logical result. But with the development came the opportunity for much disillusion and the breaking of many idols.

There is no excuse for empiricism; the internal administration of suprarenal gland to control intestinal hemorrhage does not constitute a dignified homage to independent thought but lends itself to the classification of mere ignorance; the belief that calomel is an hepatic stimulant can not be justified in the face of demonstrable experimental proof to the contrary; the administration of nitroglycerine in chloroform narcosis can not survive under the white light of a scientific study of the action of the one and the pathology of the other.

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* Read before Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

In other words, the opportunity is offered the internist to use his tools with a knowledge of their usefulness and their limitations favorably comparable to the mechanics of the surgeon and his failure so to do brands him unfit.

With these conditions surrounding the general practitioner the future looked bright to those interested in the scientific side of medicine. But, in his eagerness to be progressive, there has grown up a condition which retard the wheels of progress, our tools have all but become the property of commercial interests; their names distorted, hyphenated and multiplied, until the poor doctor, lost in bewilderment, helpless under the fusilade, has become the tool of proprietary interests as damnable in their ultimate accomplishments as patent medicine interests. Dependable, well-known and much used drugs have been combined under proprietary names by these so-called manufacturing concerns; useless and long abandoned ones have been laboriously resurrected; exhaustive and pseudo technical literature has been printed by the league; and drapper, oleaginous tongued detail emissaries hover concernedly around the doctor's consultation room eager to instruct him how the halt, the the maimed and the blind may be restored to health and earning capacity. It all seemed so easy. The certain action of the agents in each particular combination when compounded, labelled and marketed by each particular house after a special manner peculiarly their own; the escape from the rascally druggist, who, notwithstanding he was your neighbor, a citizen and tax payer, was an incompetent and a substituter; the avoidance of prescription-writing with its attending trying details; fear of incompatability and useless waste of time; the opportunity for psychic influence on the patient on being informed that this was a new agent and not procurable at every drug store, all these and more, lent a charm to the using of proprietaries unrivalled by the Lotus-Eater and as seductive to the conscience as the fabled draft of Lethe.

These drug manufacturers were so wholly altruistic, so impregnably honest, so unutterably scientific, so modestly self-effacing, that their detail plenipotentiaries always remove their hats when they pronounced their leige and master's name.

We have no quarrel with the honest, legitimate manufacturing pharmacist; he is as much a necessity under modern conditions as is the druggist or the trained nurse or the instrument manufacturer. There is no cause for rivalry between him and the local druggist and each can be mutually helpful to the physician. Before him is a fertile and fallow field; if he will but rightfully and skillfully till it will yield him abundantly and he can prove himself a benefactor to mankind. Let him make his products so pure, so potent, that his name shall be synonomous with purity and potency. The firm of Squibbs, for example, did not have to call chloroform manufactured by their house by some coined name to establish a demand in the medical profession for Squibbs' choroform; they made it so free from dangerous impurities, so uniform in its activity, that doctors all over this broad land demanded Squibbs'. Stradivari made his violins so perfect in workmanship and so pure in tone that his name on an instrument makes it worth a fortune; he did not have to coin a new name for an old musical instrument but called the product of his hands a violin just as did other makers. John B. Stetson did not have to dub a hat by some fantastical name to enable him to establish a reputation as a maker of good hats. The reputation of Elgin watches was not builded upon a copyrighted nomenclature.

Henry Diston makes good axes and saws, but he has never felt obliged to bid for trade under any other name that Diston's *axes* and Diston's *saws*. From a commercial standpoint the manufacturer of drugs stands nowise in a different relation to his products than do the manufacturers of violins, hats, watches, axes, and saws. If he makes his product a good one because of purity of raw material and excellency of workmanship it will be recognized. The fundamental reason for trade names in drugs rests on the fact that a halo of mysticism has surrounded medical art and practice; that the label "guaranteed to cure" has become a fetish with the laity and that doctors consciously or unconsciously, are not entirely fre from such cajollery. Under euphemistic titles a drug house can print claims that would insult the intelligence of the physician if the product were labelled merely iron or arsenic or phenolphthalein. The contagion of commercialism has even attacked some of the members of the profession. They have organized or subscribed for stock in so-called manufacturing concerns, prescribed the proprietary *stuff* put on the market by their concern thus profiting doubly on their patients misfortunes.

They have lent sanction to this nefarious compounding to the extent of having marketed an "Intestinal Antiseptic" (Dr. Smith's formula), or a "Heart Tonic" (Dr. Brown's formula), and have not only prescribed the stuff themselves but, through their concern, employed detail men to insult the intelligence of other doctors by importuning them to prescribe their formulae.

The objections to proprietary prescribing are valid and unanswerable: (a) The use of fixed formulae in unscientific. Each case demands individual study and individual therapy. The prescription written on medicine dispensed at the bedside should, as nearly as is possible for the doctor to determine, be made to meet the conditions presenting in that particular case, determined by that patient's habits, idiosyncrasies and disease. The individual can only approach the text-book classic and routine therapy ignores or defies the factors in that case which should determine the treatment.

(b). Fixed formulae therapy tends to create the habit of thinking in terms of names of combinations rather than of individual drug action. It is no easy task to familiarize oneself with the effects of the official drugs and it were easier to clean out the Augean stables than to remember the names of the myriad proprietaries of to-day to say nothing of remembering the ingredients of each. When a doctor essays the task of doing all three he is doomed to failure or error.

(c). Consultation must be largely or wholly unsatisfactory. If the attendant uses official names the carbon copy of his prescription places, at once, in the hands of the consultant understandible and dependible therapy; a therapy that is of common knowledge and not dependent upon whether the consult- has been recently detailed.

(d). The patient pays the freight. Proprietaries are invariably more expensive than the same ingredients compounded by the physician or pharmacist, for, the manufacturer (?) adds to the cost of the individual ingredients, the cost of compounding and the tariff he claims under his trade name, while the druggist adds his profit for dispensing. Verily the patient payeth the freight.

(e). The system reduces the druggist to the level of a department store clerk. Pharmacy is a technical profession; it necessitates study and requires time to become proficient. The pharmacist is capable of preparing all necessary combinations and why should man with a technical knowledge and training be required to spend much of each day in merely pouring the contents of the original bottle into another and changing the label?

(f). It works a finançial hardship on your friend and neighbor the druggist. He must keep in stock, under much expense, all or most of the proprietaries. Some of it is bound to become dead stock since the doctor detailed to-day will write a prescription for four ounces of some new (?) stuff to procure which the druggist must purchase the original bottle of, perhaps, sixteen ounces. The doctor forgets the stuff by the time another supposed indication appears in his practice or he is detailed with some newer stuff and he orders a little of his new love compelling the long-suffering druggist to buy another original package while the old one stands on the shelf accumulating dust. Every drug store in this country has no little of its capital tied up in just such useless if not worthless nonsense.

UNRIPE PERSONAL OPINIONS.

Experience is a valued and valuable school. In things medical it stamps one man the savant, the other the tyro. No sane man feels inclined to discount the importance of the knowledge gained by intimate observation and test, but sanity must determine the fallibility of conclusions born of circumscribed endeavor. Therapeutic sanity must likewise remember that here exists a tendency toward recovery from acute processes in a given series of most of the transmissible diseases; only the minor percentage succumb. The innate, vital, reactive tendency of the body cell is a physiological and pathological fact and must obtain pharmacological recognition from the physician if his conclusions are to stand the acid test of investigation by other men engaged in similar lines of work. It must follow, then, that to satisfactorily establish the merits of a given remedial agent it should be used in a comparatively large series of cases; that the diagnosis of each of these must be taken absolutely out of the realm of the speculative; that there must be facilities for making and keeping accurate data during the course of treatment; finally, that the observer must be possessed of an unprejudiced mind, of a scientific tendency, of no little experience and capable of correctly interpreting the phenomena observed. It is, for instance, a comparatively easy thing to make a tracing with a sphygmomanometer but, comparatively few are capable of intelligently interpreting the readings; many men can acquire the mechanical skill requisite for radiography, but many X-ray pictures are quite worthless unless skilfully interpreted. So in pharmacology, a limited observation, inadequate data and hasty conclusions only serve to muddy the waters; there is too marked a tendency on the part of the profession to use some agent a few times and rush into print with half-baked conclusions made with the dogmatism characteristic of the profession. Observation is desirable and independence of thought commendable but work along this line must be concerted, accumulative and interdependent. The consummation of many conclusions becomes, then. the truth and can be safely followed. Suppose we take pneumonia to illustrate the point at issue. The writer recalls listening in his student days to a very earnest exposition by an honest man, and honestly mistaken, of the potency of ergot to abort pneumonia and yet thirteen years have been gathered to their fathers and the profession is unable to abort this disease. Nearly two decades have elapsed since the Italian observer wasted much ink in the contention that digitalis, in heroic dosage, reduced the mortality of this same malady to the vanishing point and still pneumonia's 1913 batting average is near the top. It has been but a few years since somebody treated a few cases of scarlet fever with streptococcic vaccine; the cases happened to be mild and the mortality low and behold a new Daniel come to Judgment and yet, we are still patiently waiting and earnestly working for a remedy that will rob this dread disease of its terrors. Spangler's rattle-snake-venom treatment for epilepsy, Friedman's tuberculosis treatment, Schafer's phylacogen for every ailment of human flesh, Hawley's lymph for the impotent, Coley's fluid for the cancerous, with scores of other knights have entered the lists and courageously, perhaps, but unwisely, broken their therapeutic lances. There is no nobler aspiration than the honest endeavor to lessen human misery and lengthen human life; there is no discredit to labor and fail; but the regret comes when we witness such impatience at painstaking, scientific investigation and the ignominy when shocked, by such short cuts to notoriety.

In sharp contrast to this strenuous therapy witness the introduction of typhoid vaccine as a prophylactic. A small percentage of the profession could even name Vincent and the others who have contributed in making possible one of the most valuable preventive agencies of the twentieth century. Abderhalden's serodiagnosis of pregnancy is an achievement that would place any man's name on the roll of great men but it has been worked out quietly, patiently and given to the profession on its merits to stand or fall. There was no beating of tom toms, nor efforts to realize a cash value, nor syndicated press notices in the introduction of these findings. These things were done by men capable of working and waiting and when they felt them to be completed were placed where they belong—in the hands of the medical profession of the world.

THE COUNCIL TO THE RESCUE.

The American Medical Association, alive to the alarming increase in the wreckage coming ashore from these therapeutic breakers, built a light house for the guidance of these professional Vikings who disdained to sail the charted paths but must spread their canvas on a new, though dangerous sea. The Council on Chemistry and Pharmacy was created in 1905 for the specific purpose to "investigate the proprietary medicine question." In the "Explanatory Comments on the Rules of the Council," issued by the first members of that body soon after its creation, occurred the following statement:

"The subterfuge of obtaining proprietary rights over an official or established non-proprietary product, by introducing unessential modifications, tends to confusion and abuses, and such articles will not be accepted by the Council. Essential and important modifications, however, will receive recognition. * * * * * * * * The Council recognizes, on the other hand, the right of discoverers of new synthetic products, or active principles, to name their discovery."

Quite naturally on this announcement of policy, storms of protest whipped the therapeutic sea into such a fury that the poor Viking was in danger of becoming too bewildered to steer by the lighthouse lamp. Those thusly peeved by the Council were the proprietary Association of the United States, the so-called "ethical" proprietary companies and the privately owned medical journals. Latterly, a few Butlers, and Lydstons and Robinsons have mutined and lent "aid and comfort to the enemy." But the Council went vigorously about its task and the results are its justification. Its work has been done honestly and fearlessly and merits the appreciation and approval of the entire profession. Manufacturers, like Mulford have learned that it is suicidal to mix a little chloral hydrate and glycerine, label it somnos and detail it as a new synthetic; and Squibb, that it is embarassing to claim therapeutic activities for a preparation unrivaled by its well known ingredients.

The one weak point in the practical working out of the plan of the A. M. A. was in its limitations; the Council could determine whether a preparation was honestly labeled; it could not speak with authority as to its therapeutic claims.

The result was that many worthless preparations were accepted by the Council and added to its list of new and non-officail remedies while the manufacturer traded on the credulity of the individual doctor this stamp of approval by the Council. The result was somewhat analagous to the workings of the Pure Food and Drugs Act of the Federal Government. The label—"guaranteed under the Pure Food and Drug Act of 1906" was perverted by the manufacturer, in its advertisements, to mean that the Government guaranteed the product. So, the drug manufacturer emphasized, to the doctor, the fact that his product had been "accepted" by the Council and hence must be valuable. Such was not the case. The Council could analyze a new synthetic, determine its composition, accept the product and publish the result, whereas the product may have been wholly inert. This defect in the plan has been remedied to a degree by enlarging the Council's membership and scope of work so as to include a limited amount of investigation into the merits of products "accepted." Men engaged in active practice are given some of these agents and their effects are carefully observed and the results published by the Council.

And yet, with all this, strange to relate, American physicians continue to use preparations after the Council's exposure of fraud or inefficiency. Just so long as doctors continue to use such agents just so long will the manufacturer continue to make them.

The writer can be no more emphatic now than in 1909 when, in a paper read before the County Secretaries at the Annual Meeting of the Kentucky State Medical Association, he said: "The individual doctor must be made to remember that his is an individual responsibility; that resolutions, whereases, therefores and pledges will not retire a single therapeutic falsehood; that it is the prescription he writes that determines the future of therapeutics, whether it shall become an art, attain to the dignity of a science, or remain what Sullivan now designates it, a "confusion."

Surgery of Spleen.—In twenty-sev necases of splenectomy done by the Mayos there were two operative deaths (splenic anemia). The slinical diagnoses were: splenic anemia (5 showing Banti's syndrome), 18 cases; wandering spleen (reocovered), 2 cases; tuberculosis (died in four months), pernicious anemia (?) (unimproved 2 1-2 years) and cirrhosis of liver (death within six months, ascites), 1 case each; infectious (?) splenomegaly 4 cases. Pathologic findnigs in cases of splenic anemia: lymphoid hyperplasia (lymphoma (?) 1; lymphosarcoma 1), 2 cases; endothelial proliferation (Gaucher type), 3 cases; chronic diffuse plenitis, 13 cases.

BRONCHAL PNEUMONIA.

By Philip F. Barbour, Louisville.

The mortality from bronchal pneumonia averages in private practice ten to thiry per cent.; in hospitals and infant asylums it varies from thirty to seventy-five per cent. Such figures as these must necessarily arouse our interest in the handling of such cases. Broncho-pneumonia is a disease found in the earliest years of life up to four years and then very rarely until extreme old age. Its incidence in early life probably depends upon the undeveloped condition of the respiratory tract. Pathologists tell us that the layer of epithelial cells which is found in the acini of the lung in the adult covering the capillary blood vessels is undeveloped in the infant and young child, there is, therefore a vulnerability of the lung to infection by various organisms. Many of the contagious diseases which are met with particularly only in childhood are complicated by broncho-pneumonia and finally the case of which inflammations spread along the mucous membrane and the vulnerability of the mucous membrane is shown by the frequency of which children suffer not only from bronchitis but from coryza and the various forms of enteritis.

Broncho-pneumonia is practically always secondary, although there are some cases where it is the primary affection. Frequently the cause is the extension of the inflammation from the mucous membrane in the nose and the larynx to that of the bronchi. Bronchitis attacks the mucous membrane of the bronchi only in rare instances and then only after repeated attacks do we find the inflammation extending by contiguity to the tissues of the underlying structures, but the inflammation does extend with great rapidity and ease to the mucous membrane of the bronchiole. Here we shall find that the inflammation is no longer limited to the mucous membrane as is the case of the larger bronchi, but it attacks with great facility the interstitial tissues, in the bronchiole and the adjacent lung tissue. It is hardly necessary to recall that the connective tissue of the wall of the bronchiole is continuous with the connective tissue of the acini of the lung. Therefore, when the inflammation has extended to the ultimate bronchiole there is always a peri-bronchitis which involves the air cells and becomes pneumonia. The pathologic picture here shows that the inflammation usually attacks the air cells which are contiguous to the inflammatory area in the bronchiole and rarely proceeds to the termination of the bronchiole in the air cell, but as the bronchiole is filled with inflammatory products and the lumen occluded by the congestion of the mucus membrane, the passage of the air into the air cells is shut off and atelectasis is apt to occur.

As long as the inflammation remains confined to the bronchial mucous membrane the temperature remains comparatively low, that is, not to exceed 102, but as soon as the inflammation has progressed to the air cells there is an immediate rise of temperature to 103 or more and a temperature of this height practically decides that the case is pneumonia and no longer a simple bronchitis. Not only is there an elevation of temperature when the inflammation attacks the air cells but there is increased rapidity both of the respiration and the pulse.

There are many possible combinations of symptoms occurring in bronchio pneumonia and there are many different divisions of the disease. Each text book writer has a somewhat different idea of the disease and somewhat different classificatoin. It is this variety of impression that confuses one in the study of the disease. It seems to the writer that a more convenient classification from the standpoint of treatment is into those which present most markedly the bronchitic character and those which present the pneumonic character. The bronchitic type is that in which bronchitis and the secretions of mucus into the air passages will be the dominating element and medication must be addressed to that feature. The pneumonic type follows more closely the ordinary course of a pneumonia and the symptoms which condition the treatment are those from the heart and from the changes which take place in the consolidated lung. In the development of the treatment we will state a few moot points arising in these two types of the disease. The bronchitic type follows bronchitis which has extended to both lungs and which has involved a part of the bronchi. The results of that bronchitis are the secretion of mucus in large or small quantities according to the area infected and also the desquamation, more or less, of the epithelial lining of the bronchi. At some one or more spots usually in the lower lobes, there is an extension to a group of air cells, Immediately there is a sharp rise in temperature and great acceleration in the pulse and increased rapidity of respiration. The problem here is the difficulty of getting air through this layer of mucus into the lungs; the work of the diaphragm and of the intercostal muscles is very greatly increased. Often the obstruction to inspiration is so great that there is paradoxical respiration and one must almost suspect some laryngeal obstruction. Frequently there is a marked constriction of the bronchioles which adds to the difficulty of the inspiration and expiration. The child is cyanosed, restless, cold, bathed in clammy sweat, struggling for breath. One should note here that the circulatory congestions are principally in the capillaries of the bronchial arteries which are branches of the aorta and that this blood is within the circuit of the left ventricle and represents really a very small fraction of the area of the oarta. There is relatively little disturbance therefore in the heart except such as comes from lack of oxygen, and the increased frequency of the pulse and respiration necessitated thereby, the problem is to get air into the lungs until such time as the bronchi shall be cleared of the obstruction. These agents which will shorten the attack of bronchitis or will prevent the extension of the inflammation along the mucus membrane will accomplish most that can be accomplished in these cases. Such measures as mustard baths, mustard packs, or poultices applied to the chest will draw the blood away from the inflamed area and lessen the inflammatory process. The ideal drug to regulate the inflammation in the mucous membrane of the lungs is aconite, veratrum viride and tartar emetic have a similar action. The alkaloidal combination of aconitine and veratrum, has proven the most reliable and effectual combination in the treatment of such cases. The lessening of the inflammatory action reduces the hyperemia and swelling of the bronchioles and limits the outpour of the mucus. It also allays spasms of the circular muscular fibres of the bronchiole, and in all of these ways may facilitate the entrance of the air into the lungs and prevent the extension of the inflammation into the deeper tissues. When the mucus is poured out into the bronchi certain measures should be empolyed to remove it as rapidly as possible. Ipecac is a type of drug which tends to thin this mucus by increasing the secretions of the glands of the mucous membrane. Certain of the alkalies such as citrate or acetate of potash and the acetate of ammonium by increasing the alkalinity of the blood renders the mucus less viscid and more easy to expectorate. The inhalation of steam from a croup kettle with or without turpentine, etc., also enables the child to cough and expectorate more easily. In such cases the writer believes in a warm moist air, a temperature as near 70 as possible, and freedom from draughts. When the outpour of mucus becomes so excessive that the bronchi become more or less filled with the mucus an emetic will often secure relief, but should not be given unless the child is fairly strong. Elevation of the foot of the bed favors the drainage from this area. It is in such cases that belladonna accomplishes brilliant results by lessening the secretions of mucus and by deepening the respiration. When the ear detects fine subcrepitant rales over the whole chest a combination of belladonna with strychnine, both of them pushed to physiological effect will often help clear up the bronchi, the belladonna acting by lessening the secretions of the mucus of the bronchiole, the strychnine by increasing the peristaltic waves which normally carry the mucus from the infundibulum to the larger bronchi where the ciliated epithelial cells can get hold of the mucus.

In the pneumonic type of broncho-pneumonical the predominating feature is the inflammation of the air cells. The physical signs are not very dissimilar to those of the croupous or frank type, except that the area involved is usually smaller and there is always more or less of the complicating bronchitis with its moist sounds. The favorable spot of pneumonia is near the vertebral columns below the angles of the scapula and the spots are usually small but careful percussion will usually outline them. and auscultation detect the bronchial breathing and bronchophony. Pnemonia adds to the dangers depicted in the earlier part of this paper, the elements of toxemia and obstruction of the circulation through the lungs, and special emphasis must be laid upon this feature. In the bronchitic type there is very little interference with the circulation, that is with the powerful left ventricle, the pneumonic type obstructs the circulation in the pulmonary system starting from the right ventricle and the amount of the obstruction varies with the number of air cells that are involved, and therefore the danger of the child is in proportion to the extent of the involvement of the lungs. Fortunately in children the strength of the right ventricle is greater in proportion to the left ventricle than obtains in adults for they have not abused the strength of the heart by alcohol, tobacco or other poisons. It is well recognized that the mortality of croupous pneumonia in children is less than five per cent. greatly less than the mortality statistics in adults, and this then seems to be due to the capacity of the heart to perform its duty in this disease. The danger in the pneumonic type then lies partly in the condition of the heart and tests the strength of that organ, it lies in the difficulty of breathing and the exhaustion of the respiratory system from the obstruction due to the bronchitis. The increased toxemia is a factor which is to be reckoned with. At present the treatment of the pneumonic element lies more in the prevention than in the ability to cure it after it has developed. Certainly alkaloidal medication pushed to effect lessens the area of pneumonia, because these areas are made up partly of individual peri bronchitic extensions and partly of a congestive area between these which finally merges together into a generalized area or pneumonia. We can hope to some extent to prevent this massing of inflammation.

The products of inflammation differ from those found in the croupous type in that the inflammatory products in the air cells are more catarrhal and contain far less and often no fibrin. It is necessary for the lung to be rid of this exudate. The processes of the catarrhal pneumonia are slower than in frank pneumonia. Therefore the area of the inflammatory changes is longer in returning to the normal than is the case in croupous pneumonia and there is the added danger of frequent extension of the inflammation and development of new spots of pneumonia and delay in the return of health and exhaustion of the strength of the child. Certain questions arise in regard to the treatment of this pneumonic type which seem to the writer as yet far from an agreed settlement. It is believed that in croupous pneumonia the exudate is liquified by a lipase which comes from the leucocytes which are found in the exudate which are thrown out from the blood vessels. It is very plausible to believe that those agents which aid leucocytosis of pneumonia will hasten the absorption of this fatty product, otherwise our reliance is upon codine. It is not decided, however, that a similar process clears up the catarrhal exudate of bronchial pneumonia.

The pneumococcus is supposed to pass through the life cycle in close to seven days and then the changes of repair takes place. Broncho-pneumonic infections may show a combination of various organisms which may have different cycles of life, the predominance of one or the other determines the outcome. By many it is believed that creosote is especially effective because of its antiseptic action and it does seem to give good results in these cases. The difficulty in the vaccine or serum treatment lies in the variety of the germs and the great difficulty of securing either an autogenous or other vaccine because the germs present in the acini of the lung may not be in the same proportion as those expectorated by child old enough to expectorate as they are mixed in with a number of other germs found in the bronchial tree. The treatment by phylacogens is complicated by the difficulty of proportioning the antidote to the germs which are present. While so much has been accomplished by them one must maintain a hope of development in the near future. Until this has been attained the treatment must be symptomatic.

It is specially important that the alimentary canal be kept clean and aseptic for fermentation anywhere in the gastro-intestinal tract interferes seriously with respiration and adds its own dangers to the disease. It is not necessary to go into the discussion *in extenso* of the various complications of the sequelae of this disease further than to mention pleurisy, empyema, abscess and gangrene of the lung, otitis media purlenta, gastro enteritis and rarely meningitis.

COLOSTOMY—REPORT OF CASES.

By Granville S. Hanes, Louisville.

My object in calling attention to colostomy is for the purpose of presenting what I believe to be a much more reliable method than has hitherto been practiced for the control of the outflow of fecal material.

Although colostomy has advanced in professional estimation yet the progress, we must admit, has been but slow. The operation has been reserved for cases of complete obstruction or otherwise desperate conditions.

Formerly colostomy was attended with great danger to life while now it is, of itself, considered to be almost free from fatal results.

The objection now to colostomies is found in the question of control over the artificial opening. Notwithstanding it is argued that control may be relied upon to a certain degree yet the surgeon, as well as the patient, feels that there is a fearful element of uncertainty just at the time when control is most woefully needed.

It is all very well for the surgeon to enter into an elaborate discussion of the operation and successfully minimize its disagreeable features but it is quite another story when the hole is in his own side and he discovers fecal material forcing its way through this opening while he is with his friends at a dinner party.

It is uncertainty in the ability to control fecal discharges that is responsible for both the surgeon's and the patient's hesitancy in resorting to colostomy for relief that is possible only by such a procedure.

For the reason that fecal control is difficult to obtain in colostomies numerous complicated operations have been suggested for the production of sphincters, angles, valves, twists, etc. On account of the mechanical obstruction produced at the artificial outlet they all aid to a greater or less extent in retarding the escape of the intestinal contents through the artificial opening.

Since no method of operation has been effective in itself, various mechanical appliances have been suggested as aids in controlling colostomies. There has been no mechanical apparatus suggested that can be relied upon to completely control fecal discharges through colostomy openings when the individual is engaged in physical exercise and the bowel contents is in a liquid state. In all cases the apparatus is held in position and controls the outlet through the intestinal wall by pressure. The difficulty in maintaining constant pressure against the abdominal wall, especially when the individual is engaged in physical exercise, can be easily seen. When the abdomen quickly contracts the pressure applied to its surface must of necessity be reduced from that existing when the abdomen is distended. Of course the feces escape when the abdominal wall is retracted, first on account of the reduced pressure against its surface and second the intestinal contents is subjected to the increased pressure and, therefore, escape more readily.

It must be borne in mind that the consistancy of fecal material as it normally exists in different individuals is one of the most important factors in artificial control. Where there is a dry condition there is no difficulty in controlling the fecal discharges. If there is a slight resistance offered at the artificial opening either by a contraction of the outlet or by pressure against the abdominal wall, the patient will have almost complete control.

It is in this type of cases that a new method of performing colostomy is done and the excellent control ascribed thereto, when in fact the most simple method of operating would have been just as successful.

If a similar operation is performed on a patient who has an excessive amount of mucus secreted, and well mixed with the feces the control will, no doubt, be found to be very imperfect and a different plan of operating will be most likely practiced on the next case. Where there is no excessive amount of mucus secreted it is important that the intestinal condition be treated for the purpose of reducing the production of this lubricant. So it can be easily understood that the merits of an operation for colostomy can not be estimated, so far as it relates to the control of the fecal outflow, until the consistence of the fecal waste is taken into consideration.

It frequently occurs that an operation is done in the rectum and as a consequence the sphincter muscles are entirely, or almost, completely destroyed and at the same time the patient has the most surprising control over his actions. It is invariably considered that this favorable condition of control is dependent upon the marvelous influence of the fragments of sphincteric muscle tissue that escaped destruction at the time of operation. That such conclusions are erroneous and can be proven so to be is easily verified by administering to the same patient any agent that will render the fecal material thin. It will then escape with no ability whatever upon the part of the patient to effect natural control, while no difficulty was experienced when the feces were well formed and required pressure from above to force the waste to and through the exit.

I feel certain that the various complicated operations that have been suggested for doing colostomies have but little value in aiding control more than the mechanical effect of narrowing the artificial outlet. If the fecal material would remain constant in its consistence in each patient the amount of obstruction in the intestinal opening could be regulated accordingly and thereby obtain better control than can be had by complex methods of operating.

I have no new method of operating to suggest for more effective control of fecal outflow in colostomy cases but I do have a plan to propose by which the simplest method of producing an artificial anus can be made one of the most reliable in regulating the escape of intestinal contents. The essential feature of the ordinary Maydl operation are followed out. A glass, metal or hard rubber rod may be employed to support the spur of the intestine. At the appropriate time an opening is made in the intestinal wall which is to serve as an artificial anus. An incision is made directly over the rod and carried up the anterior wall of the intestine within half an inch of the skin at the upper angle of the abdominal wall. If the feces are liable to remain thin the opening should be at first small and later enlarged if necessity arises. The rule has been, without variation, for the rod to be removed in a few days succeeding the operation. It is in allowing this rod to remain permanently that simple dressings can be applied and the artificial opening surprisingly well controlled.

In the first place the rod remains in the same relative position to the abdominal wall and the opening of the bowel. If there is retraction or distention of the abdomen the parts all maintain the same relative position.

The dressings for regulating the artificial opening consists in the application of a thin piece of gauze over the spur and rod, then a strip of gauze is thrown around the upper segment of the intestine, resting on the gauze, and the two ends of the strip are brought under the ends of the rod and tied. This arrangement makes a constriction around the upper and lower segments of the intestine and on account of its position under the rod there is no way by which it can escape or relax from its position. The constriction remains constant whatever may be the position or condition of the abdominal wall. The amount of constriction can be regulated to meet the requirements of the individual case. A rubber band can be used, if preferred, instead of the gauze strip. There is no cumbersome and complicated apparatus to be removed when the time for evacuation arises. In addition to the light dressing just mentioned it is only necessary to apply a narrow elastic belt. The patient, so far as the dressings are concerned, is no more uncomfortable than he would be in wearing an ordinary truss.

Every one who has had much experience in dealing with colostomies can appreciate the annoyance that arises from feces passing into the lower intestinal segment. The dressing I have suggested controls the lower segment as completely as it does the upper segment. When provision for one is made the other is controlled at the same time.

In doing a colostomy I feel very confident that it is not correct, as is often advised, to pull the intestine down tight from above but on the contrary it should be drawn up from below as tightly as the circumstances in the case will admit. Of course, the matter of subsequent operation, etc., will control our conduct in each case. When the bowel is brought down tightly from above the greater part of the sigmoid is put out of commission when the colostomy is made. Under such circumstances the feces pass down directly to the artificial anus while if the intestine is brought up from below the greater part of the sigmoid is allowed to act as a receptacle for the descending feces in the natural way and thus it becomes much denser in consistence on account of the absorption of a large amount of the water that is present.

I have done seven colostomy operations since January of this year and have employed the above method of dressings in six of these cases. It has now been more than seven months since the first operation was done. The patient declares that he has almost complete control over his bowel and experiences but little more discomfort than he did when his evacuations occurred in the normal way. I believe this to be an exceptional case, however, and could not hope to get similar results under all circumstances. In the remaining cases the dressings have been so simple and the control so complete that I have become very enthusiastic over this method of operating and controlling artificial ani.

I hope I have presented this subject in a manner sufficiently attractive to result in some of you, at least, proving to your own satisfaction the merits of dealing with colostomy cases in the manner that I have herein indicated.

DISCUSSION.

Jno. B. Richardson, Jr.: I would like to ask Dr. Hanes what appearance this knuckle of bowel assumes after it has been outside of the abdomen for say six months? Is there a tendency for the glass rod, with the fecal material containing micro-organisms, etc., to produce enough irritation and resulting inflammation to cause ulceration through the knuckle of gut?

Bernard Asman: I do not entirely share Dr. Hanes' view in regard to colostomy being such a horrible thing. It is true, a great many writers in years past have held this view, for the reason that control was not secured in the majority of instances. The principal object of a colostomy is to afford an easy outlet for fecal material, when obstruction of the bowel, due to cancer or to any other form of stricture, is so great that the normal passage of feces cannot take place. In addition to this, a reasonable degree of control is, of course, essential if the patient is to be made comfortable. This control of the bowel seems to have been the point upon which hinged the question whether a colostomy should or should not be done. As Dr. Hanes said, numerous attempts have been made, particularly in the last two or three decades to devise an operation that will secure control, most of them with very poor success; the Bailey method, the Gibson method, etc., being only partially successful. If a fair degree of control can be secured, then certainly colostomy is robbed of its horror.

A number of years ago I devised a method, which I have had occasion to speak of two or three times before this society, with which, in many cases, practically perfect control can be secured. This method consisted in making what might be termed an imitation of the natural sphincter.

While on this point, I want to say that I do not exactly agree with Dr. Hanes in regard to leaving a portion of the sigmoid loop to serve as a receptacle for fecal material. Of course, under the method he describes, it is possibly necessary to have some such receptacle. I believe, however, that in carrying out any procedure that is inintended to produce an artificial sphincter that will take the place of a natural sphincter, it is best to imitate Nature just as far as possible. Since we are going to move the anus up several inches from its normal site, let us also move this receptacle for fecal matter (which in the normal individual is the sigmoid) up several inches. By that means we have a better chance of obtaining for the patient the desire to go to stool at the proper time. We can draw the sigmoid out of the abdominal cavity and get a free loop of it, which has a very long mesentery. We cannot do a colostomy in the descending colon because of the short mesentery. The iliac portion of the colon also, as a rule, has a very short mesentery, so we have to reach down and get the pelvic portion and pull it up, making it tight from below, not from above. When the fecal matter reaches the transverse colon it remains there for some time, and as soon as it begins to go down into the descending colon, it will produce (when the colostomy is made in what I believe to be the better way) a desire to go to stool, just as when the fecal matter goes from the sigmoid into the rectum it produces that desire. In the same way, when it gets down to this artificial sphincter, as I call it, the desire comes on and the patient has plenty of time to get to the stool and evacuate the bowel.

As to the use of a glass rod, I question very much the advisability of its use for longer than the first several days. I should think it would finally cut through the bowel entirely, if there is any pressure on it at all. Of course, practical experience teaches us many things, but that would be my impression in regard to it. Then, too, if the bowels were at all loose, if it did not cause pressure necrosis, I should think it would irritate the mucous membrane sufficiently to cause ulceration to follow.

My own method of operating, briefly, is this: The site of the colostomy being determined by the location of the neoplasm the abdomen is opened and a loop of the colon brought out. A heavy cat gut or kangaroo tendon ligature is placed around it at a point which, when the operation has been completed, will be immediately within the abdominal wall and in contact therewith. While this loop of intestine is still outside the abdominal cavity, the ligature having been drawn sufficiently tight so the lumen of the bowel, where it opens at that point, would barely permit the tip of the index finger, is then secured on either side of the ligature and brought together by a series of Lembert sutures completely encircling its circumference, thus producing an infolding of the intestinal wall at that point. This is followed by a second row of Lembert sutures on either side to induce additional infolding of the intestinal wall, which results in an aggregation of the circular and longitudinal muscular fibres and brings the intestine together for a length of five or six inches. This aggregation of circular and longitudinal muscular fibres conduces to the formation of what, to all intent and purpose, is an artificial sphincter muscle. This portion of the intestine is then replaced within the abdomen and the loop remaining outside is sutured to the abdominal wound, a glass rod being placed underneath it for temporary support, being allowed to remain 7 or 8 days, holding the newly-formed sphincter just inside the abdominal wall. A T-shaped incision is made in the protruding loop of bowel at the end of about 48 hours unless the need of earlier opening is imperative. This can be done without anesthetic and causes patient no pain. By the insertion of a finger it will then be easily demonstrated that the artificial sphincter muscle, which has been formed as previously described, practically causes complete closure of the intestine, yet possesses sufficient elasticity to permit the passage of feces. In many cases the sagging of the colon is sufficient to act as a reservoir. Then as the fecal matter passes the splenic flexure and descends to the sphincter the desire to go to stool is produced. In the majority of instances the patient will have practically complete control over the intestinal contents, and in all cases there should result at least a fair degree of control.

W. C. Dugan: I want to indorse what Dr. Hanes has said in regard to making tight the lower loop of the bowel. I formerly practiced the Price method, mentioned by Dr. Hanes, drawing it down so as to make it tight from above, with uniformly bad results. Since I have adopted the method of drawing the bowel up from below, I have not seen the prolapses that occurred under the old method.

I am rather a "doubting Thomas" as to the ultimate effects of a glass rod. It will, I fear, cause some excoriation, but I should certainly try it in a case in which I believe it to be indicated. Dr. Hanes' experience in the case reported, in which the glass rod remained in position for six months without any bad effects, is certainly enough to convince one that it is worthy a trial, and the next time I do a colostomy I shall certainly try it.

B. F. Zimmerman: I would like to ask Dr. Hanes one question. Where an artificial anus is made by constricting the bowel, what effect will it probably have upon the sigmoid or colon immediately above it? It seems to me that if this condition was a permanent one, after it had existed for say two or three years, it might lead to pronounced dilation of this part of the bowel. The bowel there is not provided with muscular fibres as are the walls of the rectum, nor is it supported as is the lower part of the bowel, and it occurs to me that it might lead to considerable dilatation and consequent discomfort to the patient.

Leo Bloch: Dr. Hanes' method is so simple that it must be good. I have found that complicated operations are very difficult to do and the results are nearly always bad because it is very hard to properly carry out the technique. Certainly this method is worthy of a trial and may be the solution of the very difficult problem of controlling a fecal colostomy.

G. S. Hanes, (Closing): In answering Dr. Richardson's question I will say that a spur of any part of the intestine, when allowed to remain outside the abdomen for some time, becames red in appearance and looks like mucous membrane. There has been no evidence of inflammation or ulceration in any of the cases to which I have referred. I am sure there would be trouble if the knuckle of the bowel were brought out only a short distance and thereby necessitate much pressure to hold it in position.

Referring to Dr. Asman's discussion I will say that the rod that is allowed to remain permanently does not support any weight if the loop of the intestine is brought well out of the abdomen at the time of operation. There could be no reason for it to support the spur when it has become permanently fixed in the abdominal wound. The rod is not allowed to remain for the purpose of holding up the intestine but to serve as a fixed support for the simple dressings suggested.

In the simple operation I have described you can, of course, pull the sigmoid tight from above or below. It seems that anyone would agree that the feces would pass out more readily when entering the upper extremity of the sigmoid, in a very thin or semi-liquid state, than it would when allowed to remain in the sigmoid a natural length of time and thus become much firmer in consistence. As I said in my report the location of the tumor, etc., must have much bearing upon these cases.

I have already expressed my opinion on the questions of "sphincters" made to order. The intestine may be rolled upon itself and made into as big an aggregation of muscle fibres as you wish but there can never be an intimation of control except in the way of mechanical obstruction. If everybody had a colostomy done for several thousand years the side might possibly have some control over the material that passes through these artificial openings. There can be no control over involuntary muscles during the brief life of one individual. Of course, evolution can do much through vast stretches of time but I am sure the human family is eminently satisfied with the location nature selected for the fecal outflow.

I am glad Dr. Dugan intends making a test for himself of this method of doing colostomies. His is the correct plan for obtaining reliable information concerning such questions.

I will say in answer to Dr. Zimmerman's interrogation that the pressure in the sigmoid is no greater than when it passes out the natural route.

In either case the bowel is allowed to empty itself when it becomes sufficiently distended to stimulate a desire to go to stool. The difficulties experienced in colostomies is in the inability to prevent the feces from escaping before there is but little distention in the bowel above the artificial opening.

STRICTURE OF THE URETHRA.*

By J. T. Windell, Louisville.

The terms stricture and stenosis, being practically synonymous and interchangeable, may be utilized to represent a contraction, narrowing or occlusion of the lumen of any tube, canal, duct or viscus embraced within the organism of the *genus homo*. To convey an entirely intelligent and understandable meaning, however, one must also specify the anatomical structure implicated in the stenotic process. And, while not wishing to be understood as criticising the wisdom of the committee on arrangements in selecting the foregoing superscription, it would appear that a more appropriate and expressive designation would be urethrostenosis; moreover, as it is the evident intention to limit the scope of this dissertation to stricture of the male urether, urethrostenosis masculinus would not only be adequately expressive, but in addition possesses the distinction of being scientifically exact and technically correct.

In the outset it must be remembered that the urethra of the male possesses a double function, i.e., (a) genital, and (b) urinary; and while the urinary is usually considered as being secondary to the genital, the surgeon is oftener called upon for relief of pathological conditions which interfere with free and painless micturition than where there are departures from the normal in the performance of the genital act. The intimate existing relationship between the genital and urinary functions may to some extent be responsible for certain pathological conditions involving the male urethra.

Literally urethrostenosis may be defined as a pathological condition of the urethral canal attended by contraction and loss of normal dilatability, originating in any process which produces sclerosis of greater or less density and contractile power. The morbid process may be limited to the submucous connective tissue coat, there may be a narrow band of sclerosed tissue implicating only a small portion of the circumference of the tube, or the pathology may be distinctly more extensive with the formation of numerous rings, bands, etc., entailing complete closure of the lumen for a considerable distance. The pendulous urethra may be the site of stricture formation throughout its entire length, and as the process advances there occurs more or less invasion of the corpus spongiosum. When round-cell infiltration extends into superficial meshes of the erectile tissue, the whole spongy body may be so implicated that the penis assumes a permanent semi-erect condition. As these structural changes progress and the canal becomes smaller the expulsive power of the bladder is required to exert a constantly increasing force to overcome the resistance, resulting in hypertrophy of the vesical walls, with dilation of the urethra posterior to the stricture. Minute ulcerated areas permit the escape of germ-laden urine into the fistulae which may open either upon the perineum, the scrotum, the thighs, or even the abdomen as high as the umbilicus. Despite the magnitude of the pathology exhibited in acquired urethrostenosis, however, the condition cannot be correctly denominated a disease, *sui generis*, the stenosis simply representing a sequel to a pre-existing lesion having a distinct entity, which may be inflammatory, ulcerative, infective, or mechanical.

In considering the etiology of acquired urethrostenosis, the pertinent fact must not be permitted to pass unobserved that any lesion —infective, ulcerative, ulcerative, inflammatory, mechanical, chemical or otherwise— which entails extensive solution of continuity of the urethral epithelium, with consequent exudation, infiltration, cicatrization and contraction, may be productive of subsequent narrowing or even entire closure of the urethral lumen. In congenital obstruction to the urinary outflow, however, which occurs more frequently that hitherto believed, it is unreasonable to assume the pre-existence of inflammatory or ulcerative urethral disease, and more often than otherwise the stenosis probably owes its origin to malformation or developmental error.

Considerable impetus was afforded the study of congenital urethrostenosis by the investigations of Bazy (1903), and several illustrative examples have since been recorded in the literature, notably by Wilckens, Tolmatscheff, Budd, Schlagenhaufer, Commandeur, Bonnet, et al. According to Wilckens, congenital urethral stenosis may occur at all the orifices and at any part of the urethral canal, particularly at the boundary of the membranous urethra and the bulb, at the posterior end of the navicular fossa, and at the meatus. The genesis of these valvue-like obstructions is probably an exaggerated development of folds which exist normally. He further suggests that congenital urethral stenosis may quickly terminate fatally, in some instances death having occurred in utero evidently the result of circulatory disturbances from pressure of the distended bladder upon the umbilical arteries, in others a fatal termination ensued at a very early age. The symptoms of this congenital anomaly are often obscure. In some cases, however, there is a suspiciously thin stream of urine, or prolonged dribbling, and incontinence may be present. In addition to difficulty and pain on micturition there may be hematuria.

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* Read in a Symposium on Difficulties of Urination in the male before the Kentucky State Medical Association, Bowling Green, Ky., September 4, 1913.

Jordan has quite recently reported an interesting example of congenital urethrostenosis, with bladder hyperplasia, urethral dilatation, and multiple abscesses of both kidneys, in a male infant. The patient came under observation when one month old, death ensuing about twelve days later. Jordan describes in detail the necropsy findings, and there appears in connection with his article a most excellent illustration, which the writer has taken the liberty of reproducing for exhibition herewith.

In contradistinction to the foregoing, some of the text-books dismiss the subject with the statement that congenital urethrostenosis is extremely rare, except at the meatus or in its immediate vicinity. Others seriously question its existence by stating that even these narrowings are oftentimes the result of infantile balanoposthitis, and thus not really congenital.

By far the most prolific etiological factor in the production of acquired urethrostenosis is infection by the diplococcus of Neisser. In this connection, be it remembered, that the terms gonorrhea, blennorrhea and urethritis, cannot by the most liberal interpretation be considered either expressive or exact, and should therefore be eliminated from medical nomenclature. Gonorrhea merely signifies a flow of semen, blennorrhea is a flow of mucus, and urethritis can only mean inflammation of the urethra. Although the latter term definitely indicates the principal anatomical structures implicated, it is obviously inexpressive, inexact and unscientific. The writer would therefore suggest the adoption of specific urethroorrhea as being a more appropriate designation for urethral infection by the diplococcus of Neisser.

While there are no available records upon which to formulate an accurate estimate, experience demonstrates that in approximately seventy-five to ninety per cent. of cases of urethrostenosis owes its origin to chronic Neisserian urethral infection, or to misdirected and unwarranted methods of treatment employed by those either unfamiliar with the accompanying pathology, or over-zealous in their efforts at attempted abortion or quick relief. It is the writer's belief that maltreatment of the inflammatory results of invasion of the diplococcus of Neisser is responsible for more instances of pathologic narrowing of the urethral lumen than would ensue from the disease itself if left without the local treatment which the majority of cases receive. However, it is admitted without disputation that specific urethrorrhea is not a self-limited disorder, and that based upon present therapeutical knowledge no one can prognosticate what will be the ultimate outcome under any circumstances, yet from critical analysis of many cases (both recently acquired and of long duration) the writer is convinced that much damage has been inflicted upon the delicate urethral mucous membrane by methods of treatment which no physician nor patient would for a moment think of applying upon any other portion of the human anatomy. The almost universal employment of inordinately strong solutions of the newer preparations of silver, —"and the magnitude of the commerce of this class of drugs is attested by the fact that every pharmaceutical establishment of any importance is responsible for one or more preparations of so-called painless tissue-penetrating and gonococci-annihilating silver substance for the treatment of (so-called) gonorrhea,"—is a frequent cause of urethral stricture. This is not difficult of understanding and appreciation when one recalls the usual result of a strong chemical irritant applied to the mucous membrane in any situation.

Not infrequently urethrostenosis follows external traumatism, e.g., fracture of the pelvis, perineal injury the result of falling upon hard substances, from kicks, blows, etc. Although the perineal injury may primraily appear insignificant, yet extensive damage may have been inflicted, i.e., there may be partial or complete laceration or rupture of urethra, and the cavernous and spongy bodies may be also implicated. In Schmidt's collection of eighty-eight cases of traumatic urethral stricture, fracture of the pelvis was responsible in eleven, penetration of sharp points in two, sudden fall upon blunt objects in twenty-six, the causative factor in the remainder being variable. The perineal segment is most frequently involved, (a) because of its fixity, and (b) because of the possibility of complete compression between the symphysis and a solid object. The pendulous portion is seldom injured on account of its extreme mobility which always avoids solid objects. In cases of urethral rupture any instrumental exploration is distinctly contraindicated. "Such exploration or attempts at catheterization can only infect the site of rupture and can be of no value to the patient Treatment consists of end-to-end suture of the ruptured urethra, and is completed by the establishment of suprapubic drainage to avoid infection of the urethra by the presence of a permanent catheter.'' (Marion).

Traumatic strictures may also be produced by improper, harsh and unwarranted urethral instrumentation by those unfamiliar with the pathology of urethral and penile disorders, also from lodgment in the urethra of foreign bodies, and especially injury inflicted by misdirected and hasty efforts directed toward their removal. Pressure from penile neoplasms may so narrow the urethral lumen as to markedly obstruct the urinary outflow. Fortunately, however, instances of this kind are extremely rare, and as there does not occur a true stenosis unless the urethra be extensively implicated in the neoplastic process, the scope of this paper will not permit further consideration thereof. Stenosis may follow erosion from chancre and chancroid when such lesions are located within the urethra, but such examples are uncommonly observed.

While it is admitted there may ensue temporary narrowing or even obliteration of the urethral lumen from muscular contraction attributable to irritative, reflex or psychical causes,—the so-called spasmodic urethral stricture,—in the opinion of the writer this designation being purely a misnomer, or at least inexact and misleading, should be eliminated from the surgeon's vocabulary. It appears obvious that no degree of temporary muscular contraction can be correctly designated as stenosis or stricture. The condition might reasonably be called urethral muscular spasm.

There is little more to be said concerning the pathological characteristics of urethrostenosis. Following infection, inflammation, ulceration, etc., there occurs exudation, effusion of blood and serum, infiltration and thickening, sclerosis and contraction. Primarily and essentially the pathology is represented by the formation of cicatricial tissue, which like scar-tissue elsewhere is more or less permanent, but may possess sufficient elasticity to permit of dilation, and has a decided tendency to contract after being divided. The extent of the pathology may vary from a linear scar to complete closure of the urethral lumen at one or more points, i.e., the stricture may be simple or multiple. The obstruction to the urinary outflow depends upon the character and degree of the stenosis, which may be hard or soft, complicated or uncomplicated, the former being the most dangerous and destructive, abscesses and fistulae being not infrequently observed as concomitants.

The diagnosis of urethrostenosis is commonly made by the patient, there being inability to freely micturate, sometimes complete urinary retention from closure of the canal by inflammatory exudate. In other instances the diagnosis is made by the physician during investigation of the other disorders. If further confirmation be required it may be afforded by the intelligent application by the surgeon of various instruments designed for the purpose. For the strictly scientific diagnosis and location of urethral stenosis bougies a boule are employed, of which there are two kinds, viz., one rigid made of metal, and another flexible made of silk and varnish. Either in the hands of experts may be regarded as an instrument of precision. The size, location and density of the stenosis may be thereby accurately determined, provided the calibre be sufficiently large to permit introduction of the instrument, and the inflammation be not so acute as to induce spasmodic closure of the canal on manipulation.

While several other devices have been invented and utilized for the scientific diagnosis of urethral stricture, some of which represent considerable mechanical ingenuity, the bougie a boule is considered ideal for this purpose principally because it may be so perfectly and easily sterilized. In both the diagnosis and treatment of urethral stricture it was formerly the custom to employ local anesthesia, but experience has demonstrated that locating and introducing instruments through offending bands, etc., can be more successfully accomplished by having the sensation of the patient as a guide. Moreover, when this plan is followed there is less likelikelihood of inflicting serious injury upon the delicate mucous membrane, of creating false passages, and of introducing the instrument into sinuses already present.

The statement seems amply warranted by clinical facts that urethrostenosis is more difficult to completely cure, entails more suffering to the individual, and may be attended by more disastrous complications and sequelae than disorders of any other natural orifice of the human body. To relieve the patient of his inability to empty the bladder (if such a contingency exists) is of prime importance and should be accomplished without delay, after which the surgeon may resort to measures to restore so far as may be possible the normal calibre and resiliency of the urethra. Contrary to the opinion occasionally expressed, withdrawal of urine from an overdistended bladder the result of urethral stricture is not unattended by difficulties, not only requiring infinite patience and delicate technique on the part of the surgeon in manipulating the various instruments devised for the purpose, but a thorough knowledge of the anatomy of the parts involved. In practicing intra-urethral instrumentation it must be remembered that anatomically even the normal male urethra is not a straight (collapsible) tube of equal calibre throughout, being narrowest toward the meatus and widest in the so-called pendulous portion, and in the presence of the pathology incident to urethrostenosis the canal is necessarily much distorted, irregular and tortuous. Under such circumstances instrumental manipulations must be excedingly gentle, otherwise not only may serious damage be inflicted upon the delicate mucous membrane, but the production of false passages may eventuate in peri-urethral abscesses and fistulae. In the majority of instances more or less urinary retention having probably already existed for a considerable time, the patient is in a state of acute suffering when he applies to the surgeon for examination, and prompt relief becomes imperative. Of course where urinary retention is complete relief must be speedily obtained to prevent the disastrous complication of extensive urinary extravasation into the soft tissues of the penis, the perineum, the scrotum and the abdomen. In only rare instances, however, will suprapubic puncture for withdrawal of the urine be required. Where attempts to introduce instruments prove futile, if distress of the patient be not too great, an hypodermatic injection of morphine will sometimes relieve the intense desire to micturate and afford opportunity for relaxation of the inflamed and lacerated urethra, the patient being then able to void a portion of the vesical contents. A hot bath supplemented by hot enemata will sometimes accomplish the same purpose. The latter procedure has often times been productive of beneficial results, the dilating or catheterizing instrument thereafter passing the obstruction, or the patient being able to void sufficient urine to relieve his immediate suffering.

Numerous instruments have been devised for the treatment of urethral stricture: Catheters of many shapes, sizes and materials; bougies and sounds, large and small, curved and straight, tapering and cylindrical, solid and hollow; of metal, wood, bone, rubber, and the various fabrics such as linen, cotton, silk, silkworm gut, etc. The text-books printed over one hundred years ago described several varieties of bougies and other instruments designed for treating urethrostenosis, and contain elaborate instructions concerning their rational employment, differing in no essential respect from the suggestions in the literature of the present.

Many ingenous devices have been invented for instrumentation of the urethra when there exists a close stricture at a bulbo-membranous juncture, all of which are applicable at times owing to the variety of pathological changes encountered in this region. In the treatment of close stricture at the bulbo-membranous juncture one must necessarily utilize the smallest instrument which will enter the opening still remaining. For this purpose filiform bougies, composed of various substances, either flexible or semi-flexible, are employed. One of the most useful is known as the Banks' dilating whalebone bougie, which has the advantage of being small and gradually tapering for six or seven inches to the larger shaft which is uniform in size. If this bougie can be made to enter the opening it may usually be pushed through into the bladder, thus dilating the stricture sufficiently to permit introduction of a larger instrument or small catheter.

After an instrument of sufficient size to permit the escape of urine has been introduced into the bladder, an effort must be made to gradually restore the urethral canal to its normal size. This is best accomplished by daily irrigation of the urethra and bladder with an antiseptic solution, prior to the employment of dilating instruments. The solution must be unirritating, injected at body temperature and with sufficient force to introduce two or more ounces into the bladder. For this purpose a saturated solution of boric acid meets all the requirements. Irrigation serves a double purpose, viz.; (a) the urethra is temporarily sterilized, and (b) the fluid in the bladder prevents the instruments from coming in contact with its walls and lessens the liability to traumatism. If stronger antiseptics be utilized, such as nitrate of silver or permanganate of potassium, there may ensue sufficient irritation of the mucous membrane to again induce urinary retention.

The intervals at which dilating instruments should be employed depend largely upon the condition of the urine and the exigencies of the individual case. Much benefit may be expected to accrue from the administration of urinary antiseptics, chief of which are the ammonium-formaldehyde preparations of Nicolier. Urotropin has been the means of reducing to practically nil the dangers of urosepsis which formerly attended urethral instrumentation. In the great majority of cases, no matter how tight may be the stricture, a soft instrument can be introduced into the bladder. While the procedure may be tedious, if the surgeon is endowed with requisite patience and gentleness in manipulation of the instrument selected, the closest stricture will usually yield to persistent effort. After the smallest instrument has been inserted to the full length of the urethra, the patient can ordinarily force the urine from his bladder, and irrigation can be accomplished by hydrostatic pressure.

When dealing with close urethral stricture the two most important features to be determined are: (a) whether the bladder is capable of completely emptying itself, and (b) withdrawal of the urine from an overdistended bladder. The patient may have to be treated for some time before even the smallest catheter can be introduced, and as the bladder may contain residual urine, every possible effort must be made to keep this sterile by the administration of urinary antiseptics as already suggested. After having ascertained that the stricture is of long-standing and of exceedingly small calibre, the surgeon is wasting valuable time and subjecting the delicate mucous membrane to useless traumatism and the possibility of infection by repeated efforts to introduce sounds, bougies and catheters except those of the smallest size, and the use of these instruments should not be continued for a protracted period in attempting to pass such an obstruction, as injury to the urethra thus occasioned may not only delay the ultimate cure but render other procedures more hazardous. The majority of strictures are amenable to treatment by gradual dilatation, and this is the method employed by nearly all conservative surgeons. When the urine is comparatively free from pus and the bladder completely empties itself, dilatation may be practiced at frequent intervals, and the size of the instruments increased as the offendnig bands gradually disappear until the normal calibre of the urethra has been reached. Slight overdistension is advisable to insure complete obsorption of the deposits of infiltrated tissue. Meatotomy is oftentimes required to permit introduction of an instrument of suitable size. However, care should be exercised not to inflict permanent damage by making a large and flaring meatus, which might thereafter prevent proper propulsion of the urinary stream.

Internal urethrotomy may be employed where immediate relief is imperative, and where gradual dilatation is inapplicable or cannot for any reason be practiced. For this purpose the Maissoneuve instrument has enjoyed a considerable degre of popularity, as it represents a combination of filiform bougie and urothrotome. In the hands of those familiar with its use, this instrument has been the means in many instances of quickly relieving the overdistended bladder. However, no instrument of this class is entirely devoid of danger owing to the difficulty of determining exactly how wide an incision is being made, and even though the narrowest blade be utilized a blood vessel may be divided and alarming hemorrhage ensue. Numerous accidents of this kind have happened even in the hands of the most expert operators. There have been devised many other urethrotomes, some of which have been in extensive use for several years, but an objection which applies to these instruments is that it is difficult or impossible to prevent division of healthy urethral structures in connection with the infiltrated scar-tissue. Young, however, claims for his urethrotome that: (a) it is a universal instruments enabling the surgeon to do away with all other urethrotomes, and thus to be sure that when called in an emergency, whatever condition he may find, he will be provided with the instrument of choice; (b) it enables the surgeon to perform the operation ideal for the given case, on all strictures wherever located and of whatever calibre provided only that they are not impermeable to a filiform guide; (c) it enables the surgeon to place his incisions with the utmost accuracy, sparing absolutely the sound urethra, and dividing with certainty and completeness all strictured areas; (d) it broadens greatly the field of conservative surgery in the urethra, enabling surgeons in general to do away with a vast amount of technical knowledge as to the various urethrotomes and their purposes, and with a minimum amount of special training to do a simple, accurate and complete operation, thus reducing the number of hap-hazard mutilating urethrotomies and perineal sections. The author describes his instrument at length in the *Interstate Medical Journal* for November, 1912, and in the same article compares the merits, demerits, indications, contraindications, etc, of various other devices of this class.

External urethrotomy is indicated in all impermeable strictures and those located posterior to the bulbo-membranous juncture which are not amenable to gradual dilatation. There are in vogue several more or less popular methods for the execution of this procedure, and the success of either depends largely upon the experience of the surgeon and his individual preference. To execute the operation with a guide presupposes that the stricture is sufficiently permeable to permit introduction of a filiform bougie, and under such circumstances it would appear that a less hazardous method should be faithfully prosecuted before resorting to external urethrotomy. Where the operation must be accomplished without a guide, a sound should be introduced to the obstruction and the urethra there incised. Subdivided from before backward. Drainage may be practiced by the perineal or suprapubic method as may seem advisable or necessary. Some surgeons, however, prefer the catheter plan of drainage which may be continued until healing takes place. It must not be forgotten that no matter what cutting operations be employed for the relief of urethrostenosis, future dilatation becomes an imperative necessity, as scar-tissue invariably contracts after being divided.

Cecil recently described a method of performing external urethrotomy in impassible stricture, employed in the Johns Hopkins Hospital, which he claims is of much assistance in following the thread-like, tortuous urethral canal through its bed of scar tissue. It consists in injecting into the urethra, before undertaking the operation, a 1:2000 solution of methylene blue with an ordinary urethral syringe. The urethra having been injected and the stain allowed to remain in for about five minutes, it should be washed out with sterile water. A sound is then passed through the anterior meatus as far as possible and an incision made directly down upon it in mid-line of the perineum. The urethra is then laid open and retracted by means of silk sutures. The further course of the canal is easily seen as a dark blue passage. A grooved director may then be passed along the course of the canal as indicated by the blue stain, and the incision continued along it, but it is often easier simply to follow the canal with a pair of scissors. The staining makes it easy to see false passages branching out from the true canal. On account of the subsequent dilatation which must be carried out after the operation in any form of stricture, it is believed that it is well to close the false passages by removing the mucous membrane and uniting the tissue about them. Having laid out the course of the urethra the scar tissue on each side is excised and the urethra thus rendered mobile. In a good many cases it will be found that the tortuous urethra, when freed and brought into the mid-line, will easily cover a large sound. This is due to the true shortening of the canal. A catheter is then passed into the bladder through the penis and the mucous membrane sutured about it. A small drain is next passed down to the urethra and the external wound closed with a few sutures. The advantage of staining the urethra in impassable stricture, as claimed by the author, are: That it allows the recognition of false passages, and renders, in many instances, what may be a most difficult operation a comparatively simple one.

In the opinion of the writer the method described constitutes a decided advance in the technique of external urethrotomy, and is therefore entitled to recognition and adoption by surgeons who are called upon to perform this operation.

REFERENCES

Bazy-Bonnet-Budd: Quoted by Wilckens, Zietschrift f. Urologie, Vol. IV, No. 11, 1910; American Journal of Urology, January, 1911.

Cecil: Journal of the American Medical Association, May 24th, 1913.

Commandeur: Quoted by Wilckens, 1. C.

Gouley: Surgery of the Genito-Urinary organs.

Jordan: Journal of the A. M. A., July 26th, 1913.

Krotoszyner: Clinical Aspects of Urosepsis.

Keyes: Genito-Urinary Diseases, etc.

Marion: Jul. d'Urol. med. et Chir. April 15, 1913; Am. Jour. Surg., June, 1913.

Pedersen: American Journal of Urology, March, 1910.

Schlagenhaufer: Quoted by Wilckens, 1 C.

Schmidt: Quoted by Neff & Schrager, Surg. Gyn. and Obst., October, 1906.

Tolmatscheff: Quoted by Wilkens, 1 C.

Taylor: Venereal Diseases, 1895..

Taylor: Venereal Diseases and Syphilis, 1904.

White and Martin: Genito-Urinary and Venereal Diseases, 1898.

Wilkens: Zeits. f. Urol. Vol, IV, No. 11, 1910; Am. J. Urol., Jan. 1911.

Windell: Kentucky Medical Journal, Aug. 1st, 1913.

Young: Interstate Medical Journal, November, 1912.

Genital Functions of Female Ductless Glands.—The facts Bell brings forward in this lecture illustrate the influence of the ovaries on the uterus, on the general metabolism, and on the rest of the principal organs of internal secretion. With regard to the influence of the ovary on the uterus he shows that to some extent the implantation of the fertilized ovum is assisted—possibly by the secretion of the corpus luteum. Further, the activity of the uterus is maintained and regular contractions are promoted, probably by the secretion of the interstitial cells. In the general metabolism the total ovarian secretion appears to promote the excretion of calcium and the retention of phosphorus. And lastly, total ovarian insufficiency arouses increased activity in most if not in all the other remaining ductless glands.

THE X-RAY AS AN AID IN THE DIAGNOSIS OF DISEASES OF THE INTERNAL ORGANS.*

By D. Y. Keith, Louisville.

In discussing a subject so broad as this title suggests it is best to draw some limitations, so in the remarks that are to follow I shall try to limit them to the intra-thoracic organs.

In the beginning it is wise to call attention to the appearance of a normal chest when seen on the photographic place. First you recognize the skeletal outline, then the heart to the left of the median line, the trachea, which is usually just to the right of the median line. In a perfectly normal subject the lung is clear between the rib interspaces except near its root and along the course of the bronchi and pulmonary blood vessels where you may see several spots and dots which are considered to be the vessels filled with blood. Those at the root of the lung may be cross sections of the larger blood vessels and divisions of the bronchi. This opaque arborization of the bronchial trees are almost entirely due to the filled blood vessels which is so typical in normal subjects but so regular and symmetrical in distribution that you are reminded of a perfectly symmetrical leafless tree casting a shadow on an asphalt pavement.

With these facts well impressed upon the mind you are immediately conscious of any asymmetry as soon as you look upon a pathological radiogram.

FOREIGN BODIES.

No one will doubt the great service rendered by the Roentgen rays in locating foreign bodies such as coins, buttons, etc., in the trachea, bronchi or oesophagus but, in this, it is only an aid for you must use your clinical symptoms in such cases to aid in determining if the object is in the oesophagus or air passages.

In aneurysms of the great vessels of the thorax this method of determining the size, shape and exact location of the dilatation has been used for a number of years but recently improved apparatuses have rendered it possible to make accurate steroscopic plates in a few seconds thus making radiography so valuable to the clinician that he is not satisfied with percussion and hearing the sounds but is anxious to bring his eyes unto use to corroborate his physical findings. In this way he is enabled to see the extent of the dilatation in all directions, laterally, antero-posteriorly as well as the superior and inferior limitations.

Calcification or calcarious deposits in the aorta can be definitely determined and some reports have been made in which the radiograph has been of material assistance in making a positive diagnosis of syphilitic aortitis with marked hardening of the aortic walls.

TUBERCULOSIS.

Just recently Mr. Jordon, of London, made the positive statement that he could make a diagnosis from a radiographic examination of pulmonary tuberculosis and proved to his own mind as well as to a few others that the primary lesion of pulmonary phthisis is not in the apices in many instances, as we have always been taught, but that it was in the peribronchial lymph nodes at and around the root of the lung, the apices being a secondary infection.

Mr. Jordon's views were not accepted by all the profession or by the majority of radiologists but after doing much work along this line many are beginning to see the value of his investigations. He speaks of an indefinite mottling primarily, later distinct peribronchial mottling and much later the plates show a lesion in the apices, usually in the right lung. (One case he reports where plates were made every three or four months, the patient, a child, dying of tubercular peritonitis.) An autopsy the lesion he described ante-mortem were found and proved to be due to a tubercular infection. In a later report he[3], claims that, at least, 40 per cent of tubercular lesions in the lung are primarily at the root of the lung and that the infection radiates in all directions, but more rapidly along the larger bronchioles, the superior and inferior, but aspecially so along the superior bronchiole by which route the infection reaches the apex from which point it so rapidly desseminates, destroying the lung tissue here so rapidly that this is thought to be the primary lesion because it is the most extensive lesion found at autopsy.

To prove these asertions he has taken the lungs from 36 persons, meeting death by accident, and pronounced healthy by the pathologist in the autopsy room, and made radiographs of their lungs; 25 of the 36 showed involvement in the peribronchial lymph nodes, some of the cases showing a continuous healed track communicating directly with the apices. Calcarious deposits were found both in the apices and at the root of the lung in quite a number of the series. Tubercular infection was found in all these fibrous masses when sectioned and examined microscopically. He believes that very few individuals past the age of six years are free from some pulmonary tubercular infection.

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*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

In the *London Lancet* Reade and Coley report a series of tubercular investigations on children; their investigations were made in the following manner: a thorough physical examination of the chest was made in all cases; Von Pirquet skin test was then applied. Quite a number of the radiographs showed merely an indefinite mottling at the root of the lung, usually the right; a positive Von Pirquet reaction, the child being normal so far as a rigid physical examination could determine. None of the children that appeared normal by physical examination and a negative Von Pirquet reaction showed any of the indefinite mottling there was present on the radiographic plate[4].

The indefinite mottling and linear arrangement along the bronchi is at first difficult to believe to be pathological but with such evidence as the above and the clinical side that has been accepted as a positive diagnostic method it makes us more secure in our early diagnosis.

If the above investigations are true will we have a great advantage for the patient by beginning treatment early before the physical signs in the chest have appeared.

The earlier the stage at which we seek to determine morbid changes the more important becames the information if it is positive or aids in making another link in the chain of positive evidence[5]. Sewell says the lower half of the lung has long been a wonder to him in which he quite often finds a soggy airless base, suspects effusion to see it in a few days clear up with tymphanitic note and evidence of cavity formation.

Autopsy[6] reports can be found dating back a few years in which the tubercular lesions in infants and small children, when located definitely, are given as the root of the lung or in the middle and lower lobe, very few at this age having cavities. In the majority of these cases the lesion was located by physical examination before death. If the lesion is always given at the base or middle lobe of the lung in children why do not adults have the primary lesion in tihs locality, unless we are unable to determine it by well known physical means.

If a definite pathology can be made out at different stages of the disease can we not be of material assistance to the patient and assurance to the physician by making records for him on the photographic plate at frequent intervals. For instance, you think you have a patient recovering from a pulmonary tuberculosis that comes for examination and you hear a distinct whisper with other evidence that a rapid excavation is possible but a plate shows marked evidence of sclerotic healing that you feel satisfied is accountable for the exaggerated breath sounds. Is this not an aid to you and much satisfaction to the patient? You can see in these cases the fibroid changes with an occasional calcarious deposit which is undoubtedly nature's method of healing the diseases lung.

In bad cases a mottled "mossy" area is assurance of a further progress of the infection without calcification of the lymph nodes or formation of fibroid tissue. In these cases the rest cure is absolutely necessary for the progress is rapid when assisted by some little hygienic indiscretion.

In the old cases you can find fibroid masses, calcarious deposits and marked adhesions to the surrounding viscera, as pericardium, oesophagus or diaphragm. By some investigators marked stress is placed upon the regular outline of the diaphragm, any irregularity as to contour denoting restriction in normal movement due to an adhesion. Upon the screen the irregular, jerky movement of the diaphragm is thought to be the cause of the characteristic "cog wheel" respiration. Any adhesions or restrictions to the normal movements of the diaphragm are thought to be of a tubular origin. A pulmonary congestion is noted by any asymmetry that is present making the branches appear thicker and showing denser arborizations.

In the *London Practitioner* Lawson states "That consultant who in the diagnosis of a difficult and obscure lung condition has not brought to his aid the service of the Roentgen rays has failed alike in his duty to himself and to his patient." In the hands of one who possesses good judgment it is an instrument of greatest value. The X-ray is not a rival to any clinical method but a most valuable adjunct.

INTRA-THORACIC GOITRE.

Some very pleasing reports have recently appeared in the literature on the assistance rendered by the X-ray in determining the size, position and depth of the intra-thoracic goiter. By this means they are able to determine the ones that would most likely prove fatal on removal or the ones it would be impossible to remove on account of their extending too deeply into the mediastinum. The amount of compression upon the trachea should be made out by the constriction or the box-shaped condition the trachea assumes from the long continued pressure from its external surface.

I shall only mention a few of the other chest conditions whereby the radiograph should be pressed into surface, pleural effusions, pleural vomica, liver and subdiaphragmatic abscesses and pericardial effusions. The elimination of the chest containing any pathological process by showing a clear symmetrical lung.

Pulmonary syphilis simulating tuberculosis is made positive by its more bilateral uniformity, Wasserman test and reacting negatively to the Von Pirquet skin test.

The size, position and extent of a malignant tumor of the lung or pleura, as well as the rapidity of the growth by plates made at different times as the tumor enlarges is of invalued service.

Strictures and tumors of the oesophagus can be determined by making plates at different angles as the patient swallows a bismuth mixture.

Demonstration of a few of the lesions will be shown on the stereopticon with clinical reports of a few cases.

In conclusion I would like to thank my friends who have been kind enough to refer their work to me but wish especially to thank Dr. Dunning S. Wilson, Superintendent of the Louisville Anti-Tuberculosis Association, for his earnest and courteous assistance in selecting different types of cases from the sanitorium. His invaluable assistance has made it possible for me to exhibit to you today many of these several lantern slides.

REFERENCES.

1. Reade and Coley, *British Medical.*
2. Jordon, *Practitioner*, London, Feb. 1912.
3. Jordon, *British Medical Journal*, Aug. 31st, 1912.
4. Reade and Coley, *Lancet*, London, Vol. II, p. 1501, 1912.
5. Sewell, June 28th, 1812.
6. C. Y. White, Siyth International Congress, T. B.

Bastedo's Sign.—Bastedo's test depends on the production of pain and tenderness in the right iliac fossa on inflation of the colon with air. For this purpose Hertz uses an ordinary rubber rectal flatus tube, which is connected by a short piece of glass to a pump, such as that used with the sigmoidoscope. Bastedo recommends that the tube should be inserted 11 or 12 inches into the rectum, but, as the experiments of Goodhart, Hertz and others have shown that a tube can very rarely be passed beyond the pelvi-rectal flexure, which is never more than 6 inches from the anus, there is no advantage in introducing it further than just within the ampulla of the rectum—about an inch and a half from the anus. After the tube has been inserted the patient lies flat on his back, and the pump is brought up between his legs. On now slowly pumping air through the tube the colon is seen to gradually distend, and after a certain quantity has been introduced an individual who is not suffering from appendicitis feels a diffuse discomfort in the lower part of the abdomen, but there is no pain unless an excessive quantity of air is introduced, in which case it is not more marked on one side than the other. There is no tenderness

CLINICAL CASES

REPORT OF ONE HUNDRED AND FIFTY-THREE CASES OF KNOCK KNEES AND BOW LEGS CORRECTED BY OPERATION.

(PRESENTATION OF CASE.)

By W. Barnett Owen, Louisville.

There are many conditions more interesting perhaps but few that occur so frequently. While this special case is a simple case of knock knee, caused by ricketts, I am including in my report all cases of knock knee and bow legs that I have treated by operation up to date.

One hundred and thirty-seven of these cases were done while serving as interne at the New York Hospital for the relief of the ruptured and crippled and 16 cases since that time, making a total of 153 cases.

The operation of choice is a subcutnaeous osteotomy in the angle of greatest deformity, using the Vance osteotome and a mallet. Will say that this osteotome was first made by our Dr. Vance during his service in the same hospital. The orthopedists of the east have discarded this instrument many times for a new and more complicated one, but have always gone back to it because of the simplicity.

Compiled results of the majority of the best men of the country have shown this method of operation to be the one of choice. One hundred and twenty-nine of my cases were done by this method, 19 by manual osteoclasis and 5 by the Gratin osteoclast, a big, clumsy, expensive instrument that I do not recommend. All knock knee cases were done by subcutaneous osteotomy about one inch above the external condyle. Try to cut the bone about half in to, leaving a hinge on the inside. Sometimes this hinge will break when forcible over-correction is instituted. Would rather not have it happen, but it has never made any particular difference in the final outcome of the case. A plaster spica is applied with the limb in at least 5 degrees over-correction and allowed to remain from three to four weeks. Then the plaster is removed and the case measured for a brace which should be worn from six months to one year depending on the case. The over-correction is partially reduced and held by a plaster until the braces are ready to be worn, or about two weeks.

A brace can in most instances be considered as a convalescent splint and seldom as an original corrective agent.

This case to-night, M. J., a little girl three years of age, was admitted to the City Hospital, March the 27th of this year.

A subcutaneous osteotomy was done under ether anesthesia March 31st. Long plaster spica was applied with both limbs in an overcorrected position. The dressing was removed April the 23rd, bony union was fairly firm, the point of operation entirely healed. She was measured for her braces, the same dressing reapplied.

May 6th plaster removed and braces substituted. I have never seen an infection nor a bad result follow an operation of this kind although such a thing is quite possible in any operation.

CONCLUSIONS.

1st. These cases should be corrected early.

2nd. They do not out-grow deformity, but get worse if deferred.

3rd. All cases should be over-corrected.

4th. The object of the brace is to prevent recurrence and to force the patient to walk with the limbs and feet in the proper attitude.

5th. All cases should be instructed to return to the surgeon at intervals at least until all apparatus is finally removed.

DISCUSSION.

Jno. B. Richardson, Jr.: Dr. Owen stated that he reduced the over-correction in this case. My own opinion is that in most instances we do not sufficiently over-correct these deformities, and I would like to ask Dr. Owen why he reduced the overcorrection. There is always a tendency for these deformities to recur and, while I may be wrong about it, I believe that if he had more overcorrection in this case in the beginning, he made a mistake in reducing it. The child is very young and the condition that produced the deformity still exists, and I am inclined to believe that, when the child begins to walk, in spite of the braces he has on, there will be a tendency to recurrence.

A. C. L. Perceful: The ideal method of straightening these limbs would be, of course, without the use of any instrument at all. The principal reason for using the osteotome, especially in these rachitic cases, is because of the fact that in breaking the bones we are apt to separate them at the epiphyseal ends. Therefore, the use of the osteotome is to be advised.

W. C. Dugan: The speaker referred to the cumbersome instrument used in breaking these bones simply to condemn it I suppose. It is now seldom used, because, unless one is thoroughly skilled in its use, he is apt to bring about the condition that Dr. Perceful mentioned, that is, epiphyseal separation. I do not believe any instrument can take the place of the osteotome.

In the case exhibited, I think treatment for rachitis should be pushed, and that feature of the case should be made the principal one from now on.

W. Barnett Owen, (Closing): As Dr. Perceful has well said, the danger in attempting to break the bones without the use of an osteotome is epiphyseal separation, especially in knock-knees; in bow-legs it can be done rather frequently, but these rachitic bones are sometimes very hard to break even with a chisel.

In regard to Dr. Richardson's remarks, I had considerable over-correction in this case; in fact, it was too great to allow a second dressing to be put on in the same manner, and I believed that with properly adjusted braces a recurrence could be prevented. Therefore, I reduced the over-correction sowewhat.

AUTOPSY FOLLOWING ACCIDENTAL DEATH.

By Leon L. Solomon, Louisville.

Mr. L. B., a native of Kentucky, living in a small city in Alabama, died on the 22nd day of October, 1912, his death being apparently the result of an accident. He was 34 years of age, 5 feet 10 inches in height and weighed 195 pounds. The case came to my notice some weeks after the man's death as the result of several insurance companies in which he carried accident policies (aggregating some twenty thousand dollars), refusing to pay the policies. The companies contended that the man had died a natural death and not as the result of an accident. The history sent to me at the time was about as follows:

The man was apparently in perfect health, evidenced by the fact that a short time previously, he had been examined for life insurance and the risk accepted. He was in the habit of breakfasting late, and one morning about nine o'clock, while standing in front of his place of business, having just finished his breakfast, he observed a runaway horse coming down the street. Being a very powerful man and a perfect horseman, he ran out into the street, grasped the horse while he was running at high speed, and succeeded, after some difficulty, in bringing him to a stop. Various people who observed the incident were of different opinions as to what happened then. The horse reared, and some thought he was struck about the face or head although he presented no bruises; others were quite certain that he was struck in the abdomen, but he presented no bruise there. At any rate, he fell backward to the ground, and several observers, including a physician of repute, were of the opinion that, in falling he struck the back of his head.

In view of the fact that the man died within 20 minutes after this incident, never regaining consciousness after he fell, there would seem to be no question as to his accidental death. Observers, including several physicians, who were promptly on the spot, were all agreed that he lived not more than fifteen or twenty minutes, following the accident, and that his breathing was particularly difficult, although the heart action was well maintained. He was pronounced dead by the coroner of the town, within thirty minutes after the fall.

The chiefest point that I could determine in connection with the death was that the man had vomited profusely, immediately after he fell, vomitus escaping as he lay on the ground. The undertaker, in his report, described the appearance of vomitus about the face and clothes. This occurred on October 22nd, 1912. The man, being a former Kentuckian, his remains were brought to Louisville and interred here.

At that time, there seemed to be no question as to the liability of the insurance companies, and the presumption was certain that the claims would be paid. However, the policy contract specified ninety days in which to make settlement. On the 15th day of January, nearly ninety days after the date of death, the insurance companies, having decided to contest the payment of the claims, asked permission to hold an autopsy, which was granted, it being my duty to be present at the autopsy, as the representative of the family of the deceased. The case involving such a large amount, I felt it proper to call to my assistance Dr. Carl Weidner and Dr. Leon K. Baldauf, both of whom were associated with me. There were also present two physicians from this city, one from Columbus, O., and one from Chicago, representing the insurance companies.

The findings were quite unique. The body was in a remarkable state of preservation, and presented the appearance of one who had but recently become a corpse; no one would have thought the body had been under the ground almost three months.

The first thing apparent was a brownish stain, representing dried fluid, which had escaped from the ear. There developed some little controversy as to the origin of this, and it was finally agreed, that the physicians, representing the family, and those, representing the insurance companies, should each take some of the scrapings, so that they might be subjected to microscopical examination.

Behind the right ear, and occupying a point somewhat above the usual site for a mastoid incision was a distinct depression, about the size of a five-cent piece. The gentlemen, representing the insurance companies were very prompt to insist that this was the result of the long rest in the casket; bearing out this contention was the fact, that the head had rested on a metal projection. Furthermore, there was a similar depression upon the opposite side, although not so marked. The external findings were otherwise negative. No bruises were evident, anywhere on the body, nor any other external evidence of violence.

The autopsy was then proceeded with, in the usual fashion. The first positive finding, when the chest was opened, was a marked emphysema—such an emphysema as I had never before observed. The lungs had been pressed against the chest walls until the marking of every rib was distinctly visible on each lung, showing that this man had made a tremendous "respiratory fight" for life, and that there had been interference with inspiration and probably expiration for a considerable length of time. The physicians, representing the family, asked that this be written into the record, but the gentlemen, representing the insurance companies, objected to this, and seemed to think, that it was not the proper time for it; in other words, the particular time, when this should be made a part of the record, had not arrived.

We proceeded with the autopsy and disclosed some very dangerous findings, so far as the family was concerned. There was a large, fatty liver, and a hypertrophic sphlenitis.

Although the man was only thirty-four years of age, married, and had absolutely no history of syphilis, he had an unusually marked arteriosclerosis, with valvular lesions including a considerable narrowing of the mitral orifice. He had about as marked an endarteritis as we usually find in much older persons. The disease was particularly marked within the aorta.

We had considerable difficulty in getting into the skull. On the right side, where there was a distinct depression, behind the ear, there was discoloration of the muscle. On the left side, where the depression was not so distinct, there was no discoloration. Upon going into the ear, it was found, that he had a ruptured drum membrane, right side. It appeared to me, that sufficient injury was apparent, here, to have caused death by paralysis of respiration and circulation. There was absolutely nothing abnormal in the brain or meninges. There was no fracture of the bony parts. Although he had a ruptured drum membrane and a clot against the drum, there was no injury to the internal ear.

Next the man's stomach was opened, and I asked for a specimen of the food it contained. Here again, it appeared, that the proper time for this had not arrived, but I insisted, and it was finally agreed that each side should take a portion of stomach contents. Although the man had been dead almost three months, the yolk of the egg and the cereal he had eaten for breakfast looked as fresh as if washed out of the stomach, by lavage, within an hour after the meal.

The bronchial tree presented the most interesting findings. The trachea and both of the bronchi were absolutely occluded, the occlusion extending down into some of the smaller divisions of the bronchi. It was then very plainly apparent, that death had resulted from occlusion of the trachea and bronchi, and the gentlemen, representing the insurance companies stated that they were willing to write into the record, a verdict of "accidental death."

There are several interesting features to this case. First, that, in view of the history as just outlined and sworn to before a coroner's jury by reputable eye witnesses, and the strong, robust physique of the man, there should have been any question as to death being the result of accident. Second, the absence of any external evidence of injury. Third, the horseshoe kidney. He had practically three kidneys; two of them placed as kidneys usually are, and another perfectly normal kidney structure, which, it it could have been dissected away from the others, would have been properly described as a third kidney.

My idea of the manner in which death occurred is this: The man had just finished his breakfast and had a full stomach. He was probably struck in the stomach, or perhaps vomiting resulted from a blow behind the ear. At any rate, vomiting occurred, and the man being rendered more or less unconscious by the fall, the vomitus was aspirated into the trachea and bronchi, occluding them, shutting off respiration.

Death by Lightning.—Jex-Blake states that persons struck and apparently killed by lightning should at once be given plenty of fresh air, their clothes should be loosened and artificial respiration by Schafer's or Sylvester's method should be applied and should be continued until either recovery occurs or cooling of the body and rigor mortis show conclusively that death has taken place.

CARCINOMA OF THE STOMACH.

(REPORT OF CASE.)

By BEN CARLOS FRAZIER, Louisville.

Nothnagel says: "Many authors are inclined to attribute a certain role to traumata, for the reason chiefly that in some cases trauma preceded the appearance of the first symptoms of the disease." Brosch has called attention to the fact that carcinomata, if they are not found in the pylorus (their most frequent location), are usually found in the lesser curvature, provided the topography of the stomach is normal. He attributes this to the fact that this portion of the stomach is fixed and anchored by the short mesogastrium, and consequently cannot yield if a blow strikes the stomach; besides, this part of the organ is curved convexly and protrudes into the cavity of the stomach. According to Brosch, a small fold can be found in the lesser curvature in a large percentage of persons who are examined post mortem and whose stomach is found to be normal. This ridge separates the pyloric antrum from the rest of the stomach, and, according to this investigator, forms a typical starting point for carcinoma of the lesser curvature. In contradistinction to the lesser curvature the greater curvature of the stomach is anchored nowhere, is freely movable, and can consequently recede or yield if a blow or some other injury is inflicted. He argues that carcinoma is hardly ever found in the greater curvature, and that in those cases in which the whole wall of the stomach is infiltrated with carcinoma the greater curvature usually remains free. According to Brosch, those portions of the stomach, therefore, are chiefly involved by primary carcinoma that are particularly exposed to injury. He argues that folds of the stomach wall or portions of the wall that are pressed against some relatively hard basis by the ingesta are always the ones to become affected.

On November 27th, 1912, Mr. T., age 68, whom I had known for fifteen years or more, consulted me in regard to a tumor in the left lumbar region perhaps also involving the left hypochondrium. He gave the following history:

Six weeks or two months prior to this time he had been holding the handles of a plow while a macadam street was being plowed up and the plow struck such an obstruction that he was hit in the side, thrown for some distance and was breathless, but after a short while he was able to get us and continue in charge of the work, although not attempting any physical exertion further. He seemed not to have any bad results from this injury and not until five or six weeks later did he observe any trouble with his stomach or the tumor that I described.

Mr. T. has always been quite thin, never has had any illness except what was supposed to be a malarial fever of short duration about the time he was grown.

About six weeks after this injury he wakened one morning with a slight nausea and vomited a great deal of blood. The hemorrhage was hard to control, the doctor was sent for and from the description the hemorrhage must have been quite large. After the primary hemorrhage there was no further spitting of blood and it was a week or ten days subsequent to this time that I first saw him. His appetite was good, but at the end of each meal he was apt to spit up small mouthfuls of food. If he retained his meals for five or ten minutes he had no vomiting until the taking of food at the next meal. In other words, if he did not vomit immediately upon eating he did not vomit at all.

In making an examination the first thing that came to my mind was the possibility of this tumor being carcinoma of the stomach, but because of the history of the direct violence or injury, I was inclined to believe that this injury had caused a hematoma and that it had ruptured in the stomach causing extreme hemorrhage that I described. After treating this gentleman for a few weeks with digestants I decided to have Dr. Keith make some X-ray pictures and he will show these. I will not attempt to describe them except to speak on that in my closing remarks. After having these pictures I decided this man had carcinoma of the stomach, possibly of the greater curvature, which is unusual, but because of his age I did not believe it was an operable case, although some other gentlemen had seen him and suggested that that was the only thing to do for him. About six weeks prior to his death, on the second to last visit to my office, I discovered his liver to be very much enlarged and, of course, I recognized then that this was metastatic change due to the cancer of the stomach. He gradually grew weaker and died of exhaustion.

I made a post mortem examination a few hours after death and found the following conditions:

The growth was in the greater curvature of the stomach, evidently about midway between the cardiac and pyloric ends; there were a great many adhesions between the greater splenic omentum and the stomach; the stomach and liver were adherent, also dense adhesions between the stomach and transverse colon; neither the cardiac or pyloric ends were of a diseased appearance; the liver, especially the right lobe was very much enlarged and several ulcers of the liver were present; there was practically no enlargement of the spleen and no glands below the pyloric ends of the stomach were enlarged and the whole intestinal tract below the stomach seemed to be in normal condition.

MEDICAL PROGRESS.

By D. Y. Keith, Louisville.

I.

X-ray in Intestinal Stasis.—In the (Wiener Klinische Wochenschrift) Gottwald Schwarz discusses the methods and results in diagnosis of stenosis of the lower portion of the small intestine by means of the Roentgen Rays, reciting four cases in which diagnosis was confirmed at operation. The small intestine in a normal subject should be empty in eight hours after a bismuth meal and the shadow of the small intestine should not be thicker than the average thumb. In the first case described X-ray examination eight hours after the bismuth meal revealed looped bands of shadow, extending from one iliac spine to the other being as low as the symphysis in the median line. The bands were about sixteen inches in length and had a definitely ribbed appearance. In two places they looked as if they had been cut through. The condition was unchanged twenty-four hours after the test meal. These shadows were read as abnormally widened loops of small intestine in which the ingested food was stagnated for twenty-four hours.

On this basis a diagnosis of stenosis of the small intestine was made. At operation a stenosis caused by scar tissue, apparently tuberculoos in origin, was found near the cecal end of the ileum. The "ribbing" of the shadow in this case could only have been caused by hypertrophy on Kerkring's folds. A neoplasm was suggested until the Roentgen Ray examination was made.

The second case proved to be a carcinoma of the cecum and here the X-ray revealed the presence of obstruction without showing the exact location or the anatomical cause. The appearance of the shadows were very much the same as in the first case except in this one bubbles of gas were shown which suggested fermentative changes in the contents of the intestine. In the third case a positive diagnosis of obstruction of the small intestine could be made, the stagnation remaining the same for seventy-two hours with great formation of gas and increase in the amount of fluid. At the operation the obstruction was shown to be due to metastatic carcinomatous masses. Clinically, aside from the X-rays, there was in this case no means of distinguishing obstruction in the small intestine from obstruction in the big gut and the X-ray plate was, therefore, of service only in a practical way. The diagnosis in the fourth case was made from the X-ray plate as the clinical manifestations were indefinite.

The author concludes that stenosis of the lowest part of the small intestine shows in the following ways: (1) There is a stagnation of the intestinal contents, which can be clearly seen eight to twenty-four hours or even seventy-two hours after ingestion. (2) The loop appears widened and either gives a ribbed appearance or shows abnormally long band like shadows of the breadth of the colon. Fluid and gas filled cavities may be present, varying in size from that of a fist to that of a child's head, together with parts showing heavy shadows. (3) Both conditions under (2) speak of obstruction of the small intestine.

Overfilling of the ileum as a consequence of enteroptosis can be distinguished from obstruction, (a) by the length of time the obstruction lasts—in enteroptosis it lasts not more than ten or twelve hours; (b) by the position of the loops, which in stenosis seem, as it were, unrolled and look like long hanging strips of shadow across the abdominal field; (c) through the size of the lumen of the intestine,—in enteroptosis the shadow of the individual loops do not appear widened; (d) in the presence of obstruction but not in enteroptosis, of large collections of gas and fluid.

II.

From a careful review of his personal cases Dr. Robert Coleman Kemp believes that all cases of chronic constipation should be studied radiographically, the physical signs and symptoms as well as the radiographs should be considered in making the diagnosis.

Gastro-enteroptosis can be made out by well known physical examinations but angulations, displacements and adhesions causing interference with the passage of the intestinal contents can only be determined by the X-ray.

Advanced cases of chronic stenosis of the bowel can be determined without the X-ray but even these should be made confirmatory.

He finds it difficult in persuading the private patient to submit to these examinations but the moral effect on the patient when he sees the actual existing condition is excellent and makes him more amenable to treatment. The X-ray is of value in prognosis as it enables the physician to determine for the patient the necessity for operative procedure.

As the causes for constipation are so numerous he mentions just a few referable to the disturbances of the motor function of the bowel. They are constipation due to retarded intestinal peristalsis, atonic constipation and constipation due to entero-spasm—spastic constipation. Among the predisposing causes of atonic constipation are the type of nourishment taken, neglect to the call of nature, abuse of cathartics, large enemata, sedentary from traumatic injury or in the form of con-life and too prolonged exercise. Nephroptosis genital exercise. Nephroptosis from traumatic injury or in the form of congenital floating kidney he believes occurs in only from five to ten per cent. of cases but the remaining ninety per cent. are a result of enteroptosis.

In the population as a whole he believes that fully fifteen per cent. of women have enteroptosis. It is in this type of case that he finds the musculature of the stomach and intestines also the muscles of the abdominal walls are relaxed and are factors that have a bearing in the production of atonic constipation. The typical cases are readily recognized but many of the milder cases are overlooked or a diagnosis of nephroptosis is made.

The X-ray demonstrates the condition to the satisfaction of the patient as well as the physician, and the correction of the enteroptosis relieves or cures the constipation. He is certain the frequency of adhesions, affecting the intestines of moderate degree, not sufficient to cause a stenosis of the gut, are often a cause of the disturbance of their motor and secretory functions.

In spastic constipation he finds localized or circumscribed entero-spasm is the most frequent and most usually affects a portion of the large bowel. It occurs in nervous patients and in the aged and debilitated as a sequel to chronic dysentery, ulcerative colitis and in women associated with uterine diseases. He believes that adhesions with narrowing of the canal, enteroptosis with marked angulations, are factors that produce spastic constipation.

A study of both of these types with the X-ray will demonstrate these conditions that interfere with intestinal mobility. A careful study of all these cases is what he is desirous of impressing upon the physician.

After reporting some interesting cases by short histories he gave his views as to treatment in the sufferers of constipation without acute angulations or adhesions, are relieved by belts, corsets, adhesive straps and increasing the intra-abdominal fat. The cases that are not improved by this means belong to the surgeon.

Surgery.—He invited a discussion from the surgical standpoint by asking how best to give relief. In some cases where the adhesions are reformed would it not be preferable to short circuit the intestine by enteröenterostomy and leave the adhesions undisturbed. If this was done would it not likely cause torsion of the gut, or some other portions, to slip beneath the adhesions or become adherent to it.

Second.—Where marked angulations were present would a double enteroenterostomy be preferable to suspension of the redundant intestine that is always present in these cases. His last problem was what to do with the sigmoid, resect, suspend or short circuit to prevent a sufficient mechanical obstruction being present to produce a constipation.

INFECTION AND IMMUNITY.*

By V. A. Harl, Owensboro.

Micro-organisms which are capable of producing disease are designated as pathogenic, to distinguish them from the larger class which are harmless or non-pathogenic. The former class is constantly increasing with the discovery of new species and as one after another of the bacteria supposed to be innocuous, is found, in favorable conditions to cause infection but the specific relations of micro-organisms to many of the infectious diseases remain unknown.

Infection signifies the entrance of pathogenic microorganisms into the living body. The condition produced by their subsequent propagation and other vital activities is called an infectious disease, or simply an infection.

Pathogenic organisms can not enter through the sound and unbroken skin, without causing the formation of lesions at the point of entrance. The sound skin is the very best antiseptic covering for tissue, as ordinary bacteria can not pass it at all. Some bacteria by entering the ducts of the cutaneous glands may cause disease. Disease producing organisms which enter the body may reach the focus in which they act from outside of the body, entering by inoculation, inhalation or ingestion. In most instances organisms which enter the body from without are rapidly destroyed. When they enter in large numbers, or when they are very virulent, or when the resistance of the individual is at low ebb, they cause disease. Bacteria may reach the region in which they become active from some other part of the body. Bacteria seldom dwell in the body long without inducing disease but spores can lie dormant in the system for years. When bacteria or spores from some other part of the body reach a region of injury or disease they may become active, this area is a damaged or a weakened part, in it the circulation is abnormal, it is a so-called point of least resistance which affords a nest for them to develop and multiply. The cellular activities of the weakened part being unable to cope with the activities of the germs. Even large numbers of virulent pathogenic organisms may induce no trouble in a healthy man, but let them reach a damaged spot and trouble is apt to arise.

Kocher established sub-cutaneous bone injuries in dogs and these injuries pursued a healthy course until the animal was fed upon putrid meat, whereupon suppuration took place. This proved that microorganisms can reach a damaged area by the means of the blood and it enables us to understand how a knee joint can suppurate when we merely break up adhesions and how osteomyelitics can follow trauma when the skin is intact. A given number of organisms might produce no effect on a healthy man whereas the same number might produce disease in an individual who was weak or ill nourished, suffering from depression or fear, or debilitated from the habitual use of alcohol. The personal equation plays an important part in the production of disease. Some individuals seem to be immune to certain diseases and these immunities and liabilities may be hereditary or acquired or temporary or permanent. Bacteria contain and excrete ferments and these ferments are known as enzymes. Bacterial ferments resemble pepsin and trypsin, the digestive ferments. The digestive ferments convert albumin into peptone, starch into sugar and break up fats. When microbic infection of the tissues occurs the enzymes of the bacteria act upon the tissues just as the digestive ferments act upon the food and forms microbic albuminosis. The enzymes are the weapons of the micro-organisms, by means of these ferments bacteria not only prepare substances for assimulation, but seek to destroy antagonists and cell enemies. It is probable that enzymes where absorbed are productive of toxemia. The action of pathogenic bacteria is of great importance. In the first place they abstract from the blood, the lymph and the cells, certain elements necessary to the body, as water, oxygen, albumins and carbohydrates, and thus cause body wasting and exhaustion from want of food. In the second place, bacteria produce a vast number of compounds, some harmless and others highly poisonous. The symptoms of a microbic disease are largely due to the absorption of poisonous materials from the area of infection. These poisons may be formed from the tissues by the action upon them of the bacteria, these are the true toxins, or may be liberated from the bodies of degenerating microbes which is then known as an endotoxin. Bacteria contain and secrete ferments and as albuminoses are formed in the alimentary canal by the action of the digestive ferments upon proteids, sugar and starches, so microbic albuminoses are formed by the action of microbic ferments upon the tissues. Just as the albuminoses formed in digestion are highly poisonous when injected, so the albumeoses of microbic action are called toxalbumins and these albumoeses often act as virulent poisons to the body cells. A number of compounds formed by microbic destruction of tissue are alkaloidal in nature. These poisonous alkaloids are readily differentiable and many of them are very virulent. It is probable that every pathogenic organism has its own special toxin which produces its characteristic effects, although the effects are modified by the nature of the soil—that is to say, by the condition of the tissues. Again one organism may produce several toxines. The absorption of the toxines may be very rapid; for instance, the toxines of cholera may kill a man before the bacilli have migrated from the intestine.

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*Read before the Daviess County Medical Society.

Many of the writers whose works I have consulted use the term ptomaine to designate these toxins, but in reality a ptomaine is the product of the action of saprophtic bacteria or bacteria that derive their living from dead organic matter. A ptomain is a putrefactive alkaloid and a toxin is any poison of microbic origin. Leukomains must not be confounded with ptomains. Leukomains are alkaloidal substances existing normally in the tissues and not produced by bacteria but arising from physiological fermentations or retrograde chemical changes. They are natural body constituents in contradistinction to toxins which are morbid constituents. Leukomains are found in the expired air, urine, feces, saliva, tissue and venom of snakes. If not excreted these bodies may induce illness and when injected may act as poisons. Ordinary colds and some fevers result from the retention of leukomains; they play a great part in uremia and when excretion is deficient the retained leukomains make the system a hospitable host for pathogenic bacteria. Sickness due to the retention and absorption of leukomains is known as autointoxication.

If a person can not be infected with a certain disease, he is said to be immune. Some persons seem to be naturally immune to certain diseases. Immunity to some diseases may be produced artificially. It has long been known that where a person recovers from certain diseases that he has become immune to the diesase from which he suffered. Immunity may be transitory, prolonged or permanent. Acquired immunity may be compared to fermentation. When fermentation ceases the addition of more ferment is without result. When a person recovers from certain diseases the addition to his blood of more of the causative bacteria is also void of result. Immunity was long believed to arise from the exhaustion of some unknown constituent of tissue necessary to the life of the bacteria. This theory was advanced by Pasteur. It has been abandoned because of the demonstration that though an animal may be immune to certain bacteria these bacteria will grow in its blood or tissues. A theory proposed by Chanvea is known as the retention theory and is the opposite of Pasteur's exhaustion theory. According to Chanvea bacteria growing within the body, leave as a legacy excrementitious products which produce immunity. At the present time there are two notable theories of immunity and it is probable at least that each is partly true. The first theory is that of phagocytoses which assumes that certain body cells attack, consume and destroy bacteria. The other theory is founded on the discovery of Nuttall and Buckner that normal and fresh blood serum is germicidal, the power varying for different bacteria and being limited. A fixed amount of serum is capable of destroying a fixed number of bacteria of a certain variety. Vaughn and others have shown that the germicidal agent is probably a medium furnished chiefly by the white cells and held in solution by alkaline serum. This germicidal agent Buckner called alexin or defensive proteid and attempted to explain immunity by its presence. This theory is known as the Hemoral theory. According to this theory, when an animal is naturally immune to a bacterial disease it is assumed that the blood serum and body fluids contain enough of this alexin to dissolve or destroy bacteria. In all probability both phagocytosis and bacterial solution are occurring in the same patient at the same time, phagocytosis being impossible but for the serum and bacteriolysis being impossible without the leucocytes. Since the above discoveries were made it has been found that where an animal recovers from some bacterial disease the blood serum and body fluids contain a new protective substance which is not an alexin but which has the power of destroying the toxins of bacteria. It is known as an antitoxin and is produced by the body cells under the stimulation of true soluble bacterial toxins. The first antitoxin to be discovered was that of diphtheria by Behring in

1890. He found that if an animal is injected with gradually larger amounts of toxins of diphtheria the serum comes to contain an antitoxic material. Very soon after this discovery was announced Behring and Ketasato made a like discovery in regard to tetanus toxin. It is thus seen that bacteria not only produces poisons but also stimulate the body cells to produce antidotes for thees poisons. Alexins exist in normal blood and kill bacteria. Antitoxins exist in the blood of animals rendered immune and do not kill bacteria but simply neutralize their toxins. An antitoxin combines chemically with a toxin and renders it inert and keeps it from combining with cells for which it has a special preference. It was pointed out by Behring and Ketasato that animals can be rendered immune to tetanus by artificial means and that the blood serum of immune animals will, if injected into other animals render them immune or perhaps cure the disease if injected into the animals suffering from tetanus. The same statements were also proved to be true of diphtheria. Now many experimenters are endeavoring to find the antitoxin of each microbic disease for the purpose of using it therapeutically and also as a preventive agent. The real mechanism of antitoxin formation is unknown although it is certain, as many maintain that it is secreted by the body cells. Ehrlich's theory of the mechanism of immunity is at present attracting much deserved interest. His theory may be best explained by the words of D. H. Bergey:

In the light of our later knowledge upon the subject Ehrlich, in 1898, formulated his hypothesis of the mechanism of immunity which is receiving very general acceptance by scientists to-day. His theory of the mechanism is based upon Weigert's teaching of the process of tissue repair. It is a matter of universal observation that nature is prodigal in her attempts to repair an injury. This is shown in the process of repair of an ordinary wound. A much larger amount of material is thrown out to bridge the chasm than is really utilized in the formation of new tissue. The presence of excessive amount of new material is shown by the fact that the part is raised above the level of the surrounding sound tissue and this excess is removed gradually as the new formed tissue becomes stronger and stronger, until finally the wound is marked by a line of white scar tissue, the excess gradually passing into the blood current. Ehrlich believed the mechanism of immunity was explained on a similar basis. It had become evident from the experiments of Wasserman with the tetanic bacillus that its toxin had an especial affinity for the cells of the central nervous system. Experiments with other bacteria pointed to the fact that the toxins of different species of bacteria had an especial affinity for the cells of different organs of the body. Where the amount of poison entering the body is insufficient to destroy the cells which have an especial affinity for it, these cells may be injured only to such an extent as to permit subsequent repair. In order to comprehend Ehrlich's hypothesis it is necessary to conceive the cells of the body as having a complex structure which may be stated diagramatically as consisting of a central mass or nucleus from which radiate a number of lateral chains of bonds, each of which serves to bind the cell to other substances. In the case of the cells of the central nervous system one of these lateral bonds has an especial affinity for tetanus toxin and suffer destruction. The cell now finds itself in an unstable equilibrium and at once proceeds to repair the damage wrought as in the case of tissue repair, the new material produced is far in excess of the required amount. The excess finds its way into the blood current. This material now floating in the blood current has the same affinity for the tetanus toxin as when united with the central mass of a cell as its lateral bond and can, therefore, combine with tetanic toxin floating in the blood current, thus preserving other cells from injury. The union formed between the lateral bond of the cell (which is really the antitoxin) and the tetanus toxin results in the formation of a compound which is physiologically inert. According to Ehrlich's idea, therefore, the antitoxin is simply the excess of lateral bonds floating in the blood current. This substance can neutralize the effects of tetanic toxin in a test tube just as readily as it does within the human body. In some infections soluble toxins are not formed and the body resistance depends largely on the formation by the bacteria of substances which finally, when present in sufficient amount, destroy bacteria."

It was generally believed after Metchinkoff's important discoveries that leucocytes were the agents which protected the body from infection. When other observers found that in the blood serum is material that damages or destroys bacteria, opinion swung to the view that the blood serum contains the protective element and that the leucocytes are simply scavengers and remove dead bacteria but do not destroy living ones. It has recently been shown that under some circumstances leucocytes destroy living bacteria and under other circumstances they do not and that the presence or absence of this property depends upon the presence or absence in the blood serum of substances which act upon the bacteria and render them susceptable to the phagocytic action of the leucocytes. The existence of these substances were demonstrated by Wright and Douglass in 1903, and they named them opsonins. If opsonins are present they act upon the bacteria and render the bacteria susceptable to phagocytosis. The power of opsonins is not known but serum normally contains opsonins for many different bacteria. When experiment determines the fact that an individual's leucocytes are highly phagocytic toward a particular bacteria we believe that a quantity of opsonic for that variety of bacteria is present and we may say that the individual has a high opsonic index. Under opposite conditions we say he has a low opsonic index. The tendency of the white blood cells and in a less degree of the endothelial cells of the blood vessels, lymph spaces and lymph elements to destroy bacteria under certain conditions is undoubted. This process of destruction is known as phagocytosis and the destroying cells are called phagocytes. When infection occurs, the white blood cells gather in enormous numbers at the seat of the disease, encompass and surround the bacteria and build a barrier to prevent dissemination of the microbes and general infection of the organism. The force which draws leucocytes to a region of infection also tends to draw them to an area where there is cellular degeneration or death. This force is called positive chemotasis and is greatly stimulated by opsonins. In very virulent infections the leucocytes may fail to collect and may actually be repelled and scattered under the influence of what has been called negative chemotaxis. Phagocytes at the seat of infection try to eat up, carry to a gland and there digest and destroy bacteria. A battle royal occurs, the microbes fighting the body cells with most active ferments and destroying the opsonic power of the blood serum, the body cell endeavoring to devour and destroy the bacteria in which the efforts of the opsonins give them aid. In some cases the bacteria win absolutely and the patient died. In other cases they win for a time and overwhelm the system but presently the body cells, whose movements were inhibited by the poison regain their activity and are now immune to the bacterial poison. It is probable that the material thrown out by the white cells during the combat with the microbes tend to destroy bacterial products and to neutralize toxic products of tissue destruction. These materials, which neutralize toxic products are known as antitoxin. After the attack of the disease has passed away the body cells have been educated to withstand this poison and new cells in the future retain this capacity: the weak cells were killed, the fittest survived and the body fluids contain antitoxins. The new cells formed in the body are insusceptable to the poison and the individual is said to be "insusceptable" or "immune." Phagocytosis may be antificially produced. When active hyperemia is induced by heat, when irritants are applied to an inflamed surface or when an inflamed joint is treated by Biers' method of passive hyperemia, local leucocytosis is stimulated and phagocytosis becomes more active. Some years ago it was affirmed that the introduction of certain materials as normal saline solution into the peritoneal cavity leads for a time to a great increase in resistance to abdominal infection. This period of resistance is called the resistance period. It begins a few hours after the injection and terminates by the end of the fifth day. During this period the great increase of introperitoneal leucocytes saves the animal from infection with bacteria which otherwise might cause a dangerous or fatal inflammation. Mekieliez believes it possible to establish this period of resistance before abdominal operations and was working on the problem before his lamented death. He used diluted nucleinic acid. The agents use must not be of a nature to damage opsonins for leucocytosis without plenty of opsonins would do no good. We have learned that the vital resistance to infection depends in part upon the germicidal and opsonic blood serum and in part upon active leucocytes. Vital resistance is increased by agents which cause active phagocytosis without destruction of the opsonins. Anything that lessens the germicidal and opsonic power of the blood serum or the phagocytic activity of corpuscles lessens vital resistance. Among these causes these causes may be mentioned ill health, worry, unhygienic life, chronic drug intoxications, chronic vesical diseases, diabetes, Bright's disease, gout, rheumatism, violent and sudden fluctuation of temperature and creation of points of least resistance.

BIBLIOGRAPHY.

Park's Pathogenic Bacteria and Protozoa.
French, Practice of Medicine.
Wood, Chemical and Microscopical Diagnosis.
Todd, Clinical Diagnosis.
American Text Book of Surgery.
Current Literature.

MEDICAL ETHICS.*

By JOSEPH MARTIN, Cynthiana.

To write a paper on Medical Ethics is no easy task. We feel, yes, we know *that something* which is a part of us, yet we fail to express in words that which we are conscious of as being of us.

To my mind a written code of ethics for our profession, or for that matter, for any other profession or vocation, is just as unnecessary as is the vermiform appendix. After all,

"It is not what we for ourselves have done,
But what, through work of ours, mankind has won
Of real good, that makes us great or small,
He who is greatest service gives to all."

With the above lines as a text I shall endeavor not to sift the doctor, but rather the thought which makes the doctor. I hope to avoid personalities, yet at the same time draw attention to some things which are a curse and a disgrace to the grandest and noblest of professions—with one exception. I shall endeavor neither to point out the virtues nor the vices of the followers of Hippocrates, Galen and Aesculapius, but to call to mind, in a friendly way, some things which are seldom acquired, but which are indelibly stamped in the hearts and minds of individuals by their Creator.

Some weeks ago, the House of Delegates of the American Medical Association, addressed a letter to the County Societies, inquiring about the secret division of fees, taking of commissions, contract practice, etc., etc., etc. There must have been a reason for the sending out of this circular letter. The House of Delegates of our National Society is composed of men who have at heart the best interests, not only of physicians, but the people at large on whom we live and whome we serve.

It may be there are some doctors within the boundaries of the American Medical Association, who are not as ethical as they should be.

It may be that *some few*, rather than remain "to fortune and to fame unknown," do occasionally let down the bars of justice and equity, and allow themselves to graze in the green pastures of a brother practitioner, and before retracing their steps pluck some of his choicest fruits and claim it as their own.

It may be that here in Kentucky there are *some few* who rather than rely on their own ability and honesty to "get and to hold" do encourage their fathers and mothers, sisters and brothers, uncles and aunts, and all their acquaintances to "pull" for them.

It may be that in this great Commonwealth of ours, there are *some few* who take advantage of a consultation to "appropriate" unto themselves, or use every opportunity to worm themselves into the good graces of another hard earned clientele.

It may be that there are *some few* doctors who take advantage of the absence from duty of a brother practitioner, or what is worse, insinuate that the absent one "drinks a little too much" and sometimes uses cuss words.

It may be there are *some few,* who in their own estimation consider their mode of advertising ethical, while the rank and file of the profession frown and class them with quacks and street vendors.

It may be there are *some few,* who, though professing to charge the regular fees, secretly take anything they can get in order to compete with a better qualified man.

It may be there are *some few* in our profession who are worshipers of gold, who have the filthy lucre in mind and heart, rather than the patient's welfare. If so, God pity the man who is more interested in what he gets out of the patient than what he gives the patient.

When a doctor so far forgets as to drag his profession into the mire of commercialism, it is time for him to engage in the latter vocation, and relinquish his rights to his former profession. No man can practice medicine and engage in another occupation at the same time. Ye cannot serve God and Mammon.

It may be there are *some few* who secretly divide fees with the consulting surgeon. These are they who work both ends against the middle, who collect both coming and going, who are neither honest with themselves, with their patients, nor with the consulting surgeon. Such practice is dishonest and should not be tolerated by the profession.

There may be a few who make opportunities to "drum up" work. These stand about the streets, especially on the corners, seeking whom they may devour, and luring the unwary with stale, nauseous jokes. These show profound interest in the health of every person whom chance has thrown that way. In some cases the eyes of such become suffused with sympathetic tears, giving promise of further lachrymation in order to continue the "consultation" at the office.

These are they who have faith in the golden calf, whose hope is in inches, who love the almighty dollar. These display their wares with the same sangfroid as the soldier who has been shot in the bottom of his foot, brags of having charged the enemy.

The advertising given Dr. Friedman by the yellow journals is nil, compared to the self-adjustment these fellows feel they have given themselves.

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*Read before the Harrison County Medical Society.

They certainly need no nerve remedies, but for downright, arrogant audacity, as well as for paucity of scientific thought, they deserve to be decorated sufficiently to make themselves *real* conspicuous. I am further constrained to call the attention of these fellows to a *very prominent character,* that of the pediculus capitis of Robert Burns, although at church this *little* mite made iself plainly visible.

There may be within the bounds of the American Medical Association, one, possibly two, who though apparently engaged at all times, yet when an accident or a tragedy calls for medical attention, from somewhere, somehow, this one or these two, sometimes both "present arms" ready for service. But let us here draw the mantle of charity. May the friendship which binds us together in fraternal love be not rudely shaken by the appearance of Poe's little black raven.

Let us not forget that "the paths of glory lead but to the grave," whether they be of self justification, or paths well worn by the consciousness of duty well done. Let us call attention again to the text:

"It is not what we for ourselves have done,
But what through work of ours, mankind has won—
Of real good, that makes us great or small."

A sad thought comes to me now. Can it be possible that in this wide, wide world, there is even *one* among us who would dare *think* of joining himself unto any fraternal order, much less the church of God, solely for financial gain?

The average ordinary person—by this we mean lawyers, preachers and people who are not members of our very extraordinary profession—knows very little about scientific medicine, and is consequently absolutely unqualified to distinguish between a scientific, ethical physician and the most pronounced quack. In this connection, I might say, that there may be a *very, very few* in this broad land of ours, who, although masquerading in physician's clothes and trying to look wise, yet to the initiated have all the ear marks belonging to a boastful pretender to medical skill.

Fortunately for humanity, the standard of medical education is being made so broad and high that the future will have fewer and fewer of these little fellows. Then the time will come when there will be no Sectarianism, no North, no South, no East, no West in medicine.

Truth is mighty and will prevail. As Dr. Allen K. Foster has said, there is more than one sign to indicate that the day of real comradeship between elemental science and elemental religion is not far distant.

It is not too much to hope that science and Christianity may join hands. Then surely the *very, very, very few* who have been here classified will be eliminated and William MacLure, "The Doctor of the Old School" will again come into his own, rejuvenated and fortified by the discoveries of Koch, Ebreth, Klebs, Loeffler, Erlich, Metchnikoff, Pasteur and others.

Another thought is one suggested by the last line of the text.

"He who is greatest service gives to all."

This does not necessarily mean work deep down in the trenches, in snow and in rain, sick or well. The finer qualities of mind and heart which go to make up a physician are here also embodied. Those qualities and attributes which between physician and physician, and patient and physician, if need be, bring forth a confession of lips as well as contrition of heart. Those qualities which relegate only the very, very few to the respective classes heretofore mentioned. Those qualities which build up rather than tear down.

May each one of us here be blest with health and happiness sufficient to "have and to hold" these qualities.

Lead thou us on."
gloom,
Lead Thou us on."

Before writing the above I had never seen a copy of the "Principles of Medical Ethics of the American Medical Association." After looking over these "principles" and reading carefully the three chapters:

1st. The Duties of Physicians to their Patients.

2nd. The Duties of Physicians to each other and to the Profession at large.

3rd. The Duties of the Profession to the Public.

I am still of the same opinion that to the real physician a written code on medical ethics is not essential. But a few copies scattered judiciously and wisely among our patients might make us better understood and appreciated. and at the same time "head off" the charlatan, and prevent the unscrupulous quack, who has gained an entrance into the ranks of the profession illegitimately, from being too forward and brazen.

Certainly no one can refuse to endorse the following extracts from Chapter 1:

"Physicians should not only be ever ready to obey the calls of the sick and the injured * * * * but should inspire all sufferers with gratitude, respect and confidence, secrecy and delicacy strictly observed, and the familiar, confidential intercourse to which physicians are admitted should be guarded with the most scrupulous fidelity and honor. The physician should be a minister of hope and comfort to the sick and show a since interest in the welfare of his patients.''

Chapter 2. Sec. 1. ''Everyone entering the profession incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness.''

Chap. 2, Sec. 6. It is incumbent on physicians to be temperate in all things, for the practice of medicine, requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye and an unclouded mind are essential to the welfare and even to the life of a human being.''

The above two sections express emphatically the requirements of a physician, and if these two sections are strictly adhered to there would be no need for further instructions. But there are always a number of loopholes whereby the unprofessional may evade the spirit if not the letter of the law.

Dr. H. J. Inge, Mobile, Alabama, writing in the *Southern Journal* for January, says: ''In our mad chase for the dollar, our once vaunted 'code of Ethics' has sustained many abrasions and contusions, some irreducible subluxations and a few irreparable fractures.''

For the benefit of those who have been and are still ''mad in the chase for the dollar,'' let me quote from Sections 7 and 8, Chapter 2:

''It is incompatible wih honorable standing in the profession to resort to public advertisement or private cards inviting the attention of persons affected with particular diseases; to publish cases or operations in the daily prints, or to suffer such publication to be made; to boast of cures and remedies; to adduce certificates of skill and success, or to employ any of the other methods of charlatans. It is equally degoratory to professional character for physicians to dispense or promote the use of secret medicines, for if such nostrums are of real efficacy, any concealment regarding them is inconsistent with beneficence and professional liberality ,and if mystery alone gives them public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice.''

The duties of a medical practitioner are not commensurate with their numbers, neither are they always of an attractive kind, yet his rights are sometimes to be measured, and judgment passed on, not only by his management of a few, but each and every act, whether imposed, foreordained or voluntary, will receive applause, indifference or merited condemnation.

The doctor is a politician, a preacher, a reformer, a mechanic, a soldier, a farmer sometimes, and is even consulted in matters of law, but all of these parts in which the drama of life is played, his duties are only made the more conspicuous and his obligations more arduous.

For after a consultation in which he has used his brain cells with the skill of a mechanic, the bravery of a soldier, the boldness of a politician, the piety of a preacher—some preachers—or the prudence of a lawyer, he may be praised by the family, by the doctor, or by both, and like G. Washington, considered, ''first in war, first in peace, and first in the hearts of his countrymen,'' or he may, like Mr. Taft, be criticised because of his failure to look through Teddy Roosevelt's glasses.

Honesty here, as always, is the best policy. To be a good consultant a man only needs to be a good physician and a gentleman.

On the other hand, the man who calls the consultant, the man who has borne the brunt of the battle, the family physician, also, deserves some consideration. He may not have had the advantages of the other fellow. He may not have the reputation of some. He may not have seen so much of the world as others, but he, too, has had training both in medicine and in the proper conduct of true manhood. When these two sons of Esculapius meet in the consultation room, it is on an equal footing, except of the consultant, more is expected on this occasion.

But, let each remember Maximillian, whose ambition persuaded him to accept from Napoeleon the waning empire of Mexico.

The life of the patient may be lost even with the best of consultation, but the ambition of neither physician must be allowed to interfere with its real purpose.

The sick person's life may be in the balance, and the wings of destiny, at this moment, ready to bear him toward a point from which Charon will ferry him over the Styx, yet, time may lniger sufficiently long to allow one of those conferences from which one or both physicians may emerge and hear the unwelcome plaudit, ''*Mene, mene, tekel upharsin*,'' and instead of wings of angelic whiteness, the waxy members of little Iulus may be their only adornment.

The writhing, twisting, slimy serpents that encircled the classic form of Laocoon caused no greater annoyance. Neither were the trials of Leonidas and his three hundred Spartans, when they gave their lives for Greece at the pass of Thermopylae, more thrilling than are the experiences of members of our fraternity when oppressed by ignorance and superstition, or by those whose knowledge of nursing and medicine are only imaginary.

Although Coleridge has said that, ''To most men experience is like the stern lights of a ship, which illumine only the track it has passed." We must accept Patrick Henry's view, "I have no other lamp by which my feet are guided, and that is the lamp of experience."

It is this lamp of experience, glowing with all the brilliancy of electric power, together with modern medical training, preceeded by essential, preparatory education, plus common sense, which has and does and will bring the standard of medical consultation to its proper level, from which the world, the flesh and the devil cannot dislodge it.

As the rock of Gibraltar stands as a monument to England's power over the Mediterranean, so are truth and honesty guides to right ana duty, whenever in the course of human events the science of medicine is to be sought for information and alleviation.

We are told that our years are three score and ten, but if by reason of two, three or more physicians, a life is lengthened and a separation of body and soul delayed, it is no proof that the consultation has either been a success or ethical, but it is a proof that time waits for no man, and for this reason alone, doctors should bind themselves even still closer yet in the bonds of organization, so that a fraternal good feeling may exist at all times, especially in the consultation room, where oftentimes the wisdom of Solomon, together with a little piety, is needed in order that both patient and family (including "friends") may receive their share of each, and use them for the best interest of all concerned, instead of, as sometimes happens, for the "doing" or rather the "undoing" of the doctor, whose sole purpose and desire has been to alleviate suffering and prolong life.

Ethics of medical consultation is not very different from that of law or any other profession. Two or more farmers may consult as to the best way of saving a crop of wheat or corn. Politicians may consume hours in talking about the most practical mode of getting out the full vote. Officers of an army may meet at the silent hour of midnight to reconnoitre and consider plans for meeting the enemy on the morrow, and preachers are often in conference outlining their work, based on past and present experiences, in combatting mental, moral and physical degeneracy as a part of the plan of salvation.

But, to my mind, the future public school teachers of our country will fill positions of responsibility, which will necessarily bring forth their best efforts, and demand of them oft and repeated teachers' meetings, which they now call them, but only another term for "consultation."

In each of these professions the most conspicuous thought to be embodied in the rules of duty drawn from this or that science is "honesty."

A doctor may have in his office or consultation rooms certificates of his proficiency in one or all the branches of medical science. These alone entitle him to practice his profession in a certain State or States, but somewhere in the recesses of the intellectual faculty of his being, there is something which tells him that without "honesty" these are of little avail.

There is no particular system of principles and rules concerning duty.

We must do nothing that will lower the standard and undermine the morals and ethics of our profession. We must make every effort to elevate the standard and insure the upholding of those lofty ideals that have characterized the profession in the past and which are essential to our continued progress.

Gentlemen of the Society: I have inserted the draw string, so to speak, about this subject in a friendly spirit, giving it wide range. You can enlarge its boundaries. You can play on the string where it is already placed or you can pull on it to suit the fancy and discretion of your different temperaments.

DR. LOUIS P. BALTZER AT REST.

A tragedy that shocked the whole community was brought to light here Monday morning, September ——— about 6:20 o'clock when the dead body of Dr. Louis Phillip Baltzer was found in his office by the negro janitor, who hurriedly summoned relatives of the unfortunate man.

His head lay in a pool of blood and life was extinct. Near him, on the floor, was his revolver with one empty chamber, and two small bottles, both empty. One of them had contained carbolic acid and the other cocaine.

In a fit of despondency, Dr. Baltzer had ended his life, as was attested by a note found in his pocket and addressed to his relatives. To make sure of his attempt, he had doubtless taken the drugs and then shot himself, the ball entering the head just behind the right ear, and inflicting a wound sufficient to cause almost instant death. At just what time it occurred, no one knows, but was doubtless between 9 and 12 o'clock Sunday night, as the body was still warm when found. The stores being closed, as was also both doors of his office, a few people on the streets accounted for no one hearing the report of the revolver. His rash act was premeditated; he had removed his coat and shoes and written a note as to the final disposition of his remains, together with facts bearing on his trouble.

Ill health was the cause of his despondency.

In the early part of the year he went to Chicago for treatment for skin cancer which appeared on his lip, which is presumed to have been the result of too much smoking. After six weeks, the growth seemed to respond to treatment and Dr. Baltzer returned home in an optimistic frame of mind and took renewed interest in his extensive practice. The note which he left behind stated that the cancer on his lip was cured but had developed in the glands of the throat. Realizing the gravity of his affliction and possibly continual brooding over the ultimate outcome—horrible to contemplate—led him to choose the shorter course. All of this without telling his friends or family. He was particular never to share his troubles with others, and bore them alone. Consequently, no one knew of the second malignant growth or his mental anguish.

The remains were removed to the home of his sister, Mrs. Cue Threlkeld, with whom he made his home.

Dr. Baltzer was born in Hickman in 1869, was reared and educated here. He was about 44 years old and unmarried. His medical education for the most part was attained in New York City, where he graduated in medicine and surgery from Bellevue Hospital. He returned to Hickman and took up the practice of his profession with Dr. A. A. Faris, whose demise occurred several years ago. Later he went to Louisville and practiced with Dr. Cheatham in order to get a wider experience, and later to Cairo for a short time. His next step was a post graduate course at Bellevue Hospital, preparing himself for a specialist of the ear,eyes, nose and throat, subsequently locating at Hickman, where he enjoyed an extensive practice. He had been engaged in his work in Hickman something over twelve years. No medical man in the state was held in higher esteem by his associates and the profession in general. He was conscientious to an extreme and in every sense an honorable upright gentleman above reproach.

For many years, he was the city's chief health officer, and the city fathers had good cause for placing explicit confidence in him as to the discharging of his duties and his ability. It is hardly necessary to say that he filled this office in a most satisfactory and commendable manner. Taking into consideration epidemics, the aftermaths of floods, etc., it was no light undertaking to safe-guard the public health. As an instance of his loyalty to duty, during the recent cerebrospinal meningitis epidemic, when the city was quarantined against infected districts, it was necessary to have a health certificate to get in or out of town, and the city health officer was beseiged with calls for certificates. The surprising part of Dr. Baltzer's policy in handling the situation was that he made no charges for issuing certificates, while the health officers all around us were charging from 50 cents to $1.00 each, which, we understand, was fit and proper. A Courier representative asked him why he did not charge a small fee, at least. His reply was that if he did some one might think he was issuing the certificates for the money in it or that anybody who had the "price" could get them. He preferred to do a criticism of his official acts. So it was all through his life—he valued good will more than money. Many a debt of gratitude is due him, he was big hearted, sympathetic, charitable—but his kind acts were like his sorrows, never mentioned to others.

In this sad transition, Hickman loses a good citizen; a man who loved the town and her people; who was interested in any move that would improve Hickman's moral and commercial interests. While he was not affiliated with any church, he was a hightoned, Christian gentleman. In the farewell message left by him he said: "Love to all my friends. I believe in God and the principles of Christianity; have done my best to live right and hope I wil be saved." Faith, hope and charity formed the invisible woof of his soul.

Dr. Baltzer was one of the ardent supporters of woodcraft, being a member of Elm Camp No. 3, W. O. W. His brethren of the order performed the sad duty of consigning the remains to their last resting place in the City Cemetery Tuesday afternoon.

Besides a large number of sorrowing friends, deceased leaves to mourn their loss the following sisters: Mrs. Cue Threlkeld, of Hickman, Mrs. S. L. Dodds, of Biloxi, Miss.; Mrs. Dora Kuykendall, of Scooba, Miss., and brothers, Will H. Baltzer, Chas. F. Baltzer, both of Hickman; and two half-brothers, Lee and Herman Baltzer, of Covington, Tenn.

Funeral service was conducted by Rev. G. W. Wilson, pastod of the First Methodist church, at the residence of Cue Threlkeld, at 3:30 Tuesday afternoon, where hundreds of friends and relatives assembled to pay their last tribute. Flowers, that silent expression of love and esteem, literally covered the newmade grave.

No death in this section in recent years has caused more universal grief.

Dr. Baltzer was our friend; we loved him for his high ideals of manhood, of citizenship. His untimely departure from among us is a source of keen regret; but the world is better for his having lived among us. To say that he was a good man describes the life of Dr. Louis Phillip Baltzer.

Requiescat in peace.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. BOWLING GREEN, KY., OCTOBER 1, 1913 No. 20

EDITORIAL.

SALUTATORY.

The EDITOR of this JOURNAL, just drafted for a new five-year term of office by the unanimous partiality of his fellows in the Association, approaches it with mingled feelings of gratitude to them for their partiality and of even greater responsibility to them for the character and conduct of the JOURNAL.

The KENTUCKY MEDICAL JOURNAL is no ordinary publication nor is its incorporated owners, the Kentucky State Medical Association, an ordinary organization. The two thousand doctors, which compose the readers, are probably no better educated, or possibly no better physicians individually than the two thousand picked men in the medical profession of other states and yet they have compacted themselves into an organization so far superior to that in any other state that it is a real pleasure to serve them. When one realizes that there is hardly a physician in the State worthy of the name, who is not willing to give time, money, service—whatever is needed, to the work of our profession, it cannot help making him feel more confident in human nature, more trust in everything that is good. The KENTUCKY MEDICAL JOURNAL has 2000 owners; even more remarkable, it has two thousand editors, and we feel we are within the mark when we say that four-fifths of these read its every issue from cover to cover. This would not be true if its editor were its author. It is only true because it really represents everything good and bad in Kentucky medicine. When one stops to consider that since our Owensboro meeting, seven years ago, no article written by a Kentucky doctor has been refused publication, one will begin to realize why the KENTUCKY MEDICAL JOURNAL is unique and what it means to the doctors of Kentucky. It is yours, it is ours, and the editor takes up the reins of its management with renewed confidence that it will be made better from month to month because the profession is growing better, because their interest in all that the JOURNAL and the Association stands for is growing greater, and that even while the work of both increases, his individuality and every other personality in the Association will seem less and less year by year as the Association, itself, becomes stronger.

Such a statement as this would be incomplete without a word of gratitude to our past and prospective advertisers, who really pay for this JOURNAL. For the past seven years, they have published it without one cent of cost to the medical profession of the State. When it is considered that their advertisements are of such class of products that the Council guarantees our readers against financial loss from any purchases of products advertised in its columns, this is a most remarkable statement. From month to month, we hope to publish a bigger and better JOURNAL. We will do this, if we do it at all, only because our physicians patronize our advertisers, thereby indicating that it is worth while to produce honest products. If you buy books or surgical instruments or antitoxins or whatever else from low grade houses, which cannot secure advertising space in the JOURNAL, you are not living up to your obligations either to it, to yourselves nor, which is more important than all, to the sick people for whom what is best is the only proper consideration. Many county societies are doing great work in the support of our advertisers. Will you not help to see that yours is one of these?

Please remember that the JOURNAL is what you make it. It will contain articles just as you write them—no more and no less; it will receive advertising support just as you support its advertisers—no more and no less; it will be good or bad just in proportion as you are a good or bad doctor; it will continue as in the past, to represent not one, nor a few but every doctor in Kentucky, realizing all the time that if every hope and dream of the organized profession could be realized at once that it would only mean better health and longer life and greater happiness for the men, women and children who go to make up our beloved Commonwealth.

THE BOWLING GREEN MEETING.

The Sixty-third Annual Session of the Kentucky State Medical Association has passed into its history as one of the most successful it has ever held. It is remarkable that but one essayist failed to have his paper present. The program appealed to those in attendance as thoroughly practical and interesting and it was quite remarkable how many remained in the church constantly in spite of the intense heat.

The annual orations, which appear in this number, are replete with interest. Dr. Roberts' address will make each of our readers congratulate themselves that he is a member of a profession which has accomplished these things. It makes us feel a responsibility to those of our medical colleagues or forbears that will nerve us to do better and bigger things in our respective communities both for those who are sick, in a way of a more careful diagnosis and more skillful treatment, as well as for those who are well in telling them how to keep from getting sick. The address of Dr. West reads as well as it sounds. We only wish every layman in Kentucky, as well as every doctor, could read it. Any physician can make this address worth while if he will gather together a few of the leading spirits in his community and read it to them. The addresses of Dr. Frazer in medicine and Dr. Senour in surgery were full up to the high marks expected from their authors.

The extensive use this year of the stereopticon in illustrating papers is one of the greatest forward steps in medical society work.

The work of the House of Delegates will be found in full in other pages of this issue. It is noteworthy that the various committees met earlier and oftener and stayed in session longer than they have ever done before. Every report was written after careful consideration and deliberation and not only the medical profession but the people of Kentucky are to be congratulated that there is a business body in the State which can accomplish so much so well.

The commercial exhibit was an unusually good one. Our exhibitors have caught the spirit of modern medicine. The cheap claptrap and fraudulent pharmaceutical preparations, which were the only things exhibited at such meetings until recent years, were conspicuous by their absence and the great scientific laboratories of the world were present with exhibits showing the progress in the real science of medicine rather than in merely marketing their wares.

The social features of the meeting were admirably arranged by the local committee, of which Dr. John H. Blackburn was general chairman. There was just enough entertainment to make every one feel the joy that the people of Bowling Green had in having them with them but not enough at any time to interfere with the real scientific or business work of the Association.

The harmony, good feeling and unanimity of the profession of the State in all the great work of the Association cannot help stimulating every one connected with it to better things and we feel that 1914 is sure to be the best of all the years in history of the Kentucky State Medical Association.

THE FIRST LADY OFFICIAL OF THE AMERICAN MEDICAL ASSOCIATION.

Under the above caption, the *Southern Medical Journal* contains the following editorial in regard to our State Bacteriologist. It is a pleasure to reproduce this beautiful tribute from the pen of one of the most gifted medical editors of the day to a Kentucky physician:

"The American Medical Association honored itself and the South at the Minneapolis meeting by electing as its Third Vice President one of the fairest daughters of the 'dark and bloody ground,' Dr. Lillian H. South, of Bowling Green, Ky.

"The election was no mere sentimental, complimentary affair, such as is too often the case when some popular woman is given a sinecure position from impulsive gallantry. Dr. Lillian H. South is a typical Kentucky beauty, with all the witchery and charm of manner that distinguishes so many of the lovely daughters of that splendid state; but although her personality made her election more easy and certain, it was upon her scientific and professional attainments that her friends based her claims to the office. So highly do the doctors of Kentucky esteem her knowledge and ability that they have made her State Bacteriologist. She is also Secretary of the American State Editors' and Secretaries' Association. Her election to the Third Vice Presidency of the A. M. A. was unanimous and enthusiastic, and when at the next meeting of that great Association she may chance to wield the gavel and pronounce the call to order, there may be some little disturbance caused by emotional members striving for front seats, so that they may be nearer to the center of attraction.

"It is an honor to any person or organization to win the faith and support of such a woman, hence it is with pride that the *Journal* reminds its readers that the Southern Medical Association claims as one of its most enthusiastic members Dr. Lillian H. South, of Kentucky. She has added another brilliant demonstration to the fitness of women for certain departments of the profession of medicine. With such examples in view no doubt can remain that there is not only room, but a necessity for women in the profession. Especially is this true in obstetrical and gynecological work. *The Journal* believes the day will come when most of the work in those departments, excepting the major surgery, will be done by properly qualified members of the sex to which the sufferers belong. What could be more right, proper and sensible than thus to help preserve the modesty which is one of the most precious of woman's charms? Dr. South and other experts in her line have proven that women are particularly fitted for bacteriological and other laboratory work."

THE SOUTHERN MEDICAL ASSOCIATION.

The Southern Medical Association was represented at the Bowling Green meeting by its Assistant Secretary. It was a special pleasure to note the hearty cooperation she received from our membership and to find her enrolling a large proportion of those in attendance upon its rolls. The Southern Medical Association is a purely scientific organization. More than a thousand of the best men in Southern medicine attend its annual sessions. There is no possibility of medical politics in its organization or make-up. It publishes the *Southern Medical Journal*, which is sent free to all its members and this Journal, like our own, accepts only honest medical advertising. No practicing physician in Kentucky can afford to be without it and all of us need the support and the association of the medical profession of the South as they need ours in many medical and sanitary problems purely Southern. The Southern Medical meets in Lexington on November 18, 19 and 20th. The medical profession of Fayette County and of Kentucky are highly honored to entertain this great body. It behooves us every one to enlist now and be present at Lexington in November that we may hear the really remarkable scientific program that has been arranged and that we may do our share towards adding to the luster already surrounding the Southern Medical Association. Dr. Seale Harris, Mobile, Alabama, is its secretary and a letter addressed to him will bring you an application blank for membership.

THE MODERN HOSPITAL.

The fact that Dr. John A. Hornsby, of Chicago, is the Editor of a new monthly journal, *The Modern Hospital,* is sufficient assurance to those who know him that there will be interesting reading. The first number has just arrived. No one who is in charge of a hospital, no one who attends the hospital and no superintendent of nurses or training schools can afford to be without this helpful journal. Almost every page contains suggestions of the utmost practical value. Your subscription should be sent in promptly so you can begin with the first issue of the journal. We congratulate the Editor on the first issue.

A KENTUCKY BOOK.

The Krehbiel & Company, of Cincinnati, have just brought from the press a remarkably interesting book, by Dr. Arch H. Barkley, of Lexington, on "Kentucky's Pioneer Lithotomists." Every physician in Kentucky will want a copy. Every page of it is interesting and many of the most interesting things in it have never been published before. The histories of McDowell, Dudley and Bush are so interesting that one cannot lay the book down until the last page has been read. Fresh stimulation will be given to every medical man who reads this little book. We congratulate Dr. Barkley on its publication and every one will realize the infinite pains and labor it has given him to bring together all the interesting facts contained in the book.

Vaccine Treatment of Typhoid.—Six patients with severe typhoid were treated by Randolph by increasing doses of killed cultures of typhoid bacilli. They became afebrile in from nine to eighteen days from the institution of the treatment. The dosage employed was from 200 million to 1,000 million bacilli; the interval three days, in one case two days. Two desperate advanced cases, one with double pneumonia, were uninfluenced by the treatment, and the patients died. One patient in whom vaccine was begun, began to defervesce and on suspension of treatment suffered a relapse. The relapse quickly terminated on resumption of the treatment. One case illustrates an ordinary relapse cut short by the vaccine.

ANNUAL ORATIONS.

PRESIDENT'S ADDRESS

THE PROGRESS OF STATE MEDICINE, DURING THE PAST AND RECENT YEARS.*

By W. O. Roberts, Louisville.

Ladies and Gentlemen, Fellows of the Kentucky State Medical Association:

In acknowledging the honor conferred upon me by this famous society in the gift of its presidency, I am reminded of the words of the immortal Sir John Falstaff: "Can honor set a leg? No. Or an arm? No. Or take away the grief of a wound? No. Honor hath no skill in surgery? No. What is honor?. A word." And therefore I felicitate myself with the thought that I do and have done creditably in the estimation of my fellows just what the famous Sir John says honor cannot do, to-wit: set a leg, or an arm, and take away the grief of a wound.

And if you had not believed that unlike honor I had skill in surgery, this honor would not have been thrust upon me.

I am deeply sensible of the honor, gentlemen, and I thank you.

From the foregoing you are probably expecting a discourse upon the surgical progress of the Society's year just passed. But instead I have chosen a more important and vital topic. One that reflects quite as much honor upon the profession of our State as Surgery, however glorious the record of Kentucky surgery may be. My subject is "The Progress of State Medicine, During the Past and Recent Years."

I shall refer particularly to the work accomplished by this association, the State Journal and the county societies, and incidentally call attention to some of the evils existing both within and without the profession, and the changes and improvements which seem necessary in certain directions for the betterment of the profession and the people, confining my remarks principally to the conditions as found in Kentucky. Therefore, the main features which will be herein considered are:

(1) The state and county association.
(2) The Kentucky Medical Journal.
(3) The importance of education and prophylaxis.
(4) Medico-Legal considerations.

STATE AND COUNTY ASSOCIATIONS.

Important amendments to the constitution and by-laws of this association have been proposed and adopted since the Paducah meeting, in 1902. A full copy of the amended articles was published in the Journal for August 15, 1913, and every member who has not already done so should familiarize himself with these amended articles, which clearly set forth the objects and high ideals of the association. It is believed the constitution and by-laws, as they now stand on the books, cover the intent and purpose so fully that further amendments will not be required.

In this connection, however, I desire to quote and emphasize the importance of Article 2 of the constitution, which reads as follows:

"The purpose of this association shall be to federate and bring into one compact organization the entire medical profession of the state of Kentucky, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."

It is a pleasure to note that during the past year there has been a most hearty expression of good-will and a spirit of co-operation existing between the various county societies and the State Association; moreover, this spirit of good-will has extended to other institutions and to individuals both within and without the medical profession, the ultimate result being material betterment of the condition of the people of Kentucky.

The county societies have been especially active in disseminating prophylactic knowledge among the laity in their respective districts through the delivering of lectures and talks before congregated masses, including farmers, druggists, ministers, teachers, etc., co-operating with farmers' institutes, federated womens' clubs, and other similar institutions. The county societies have also been instrumental in securing and conducting a systematic examination of school houses and school children, in their respective fields, which has resulted in great benefit to the people. Incipient disease in school children has been detected, treated and cured, while local hygienic and sanitary conditions have been improved.

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*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

MEDICAL SCHOOLS.

The attitude of the State Association relative to the question of medical education, is most creditable. Its members' endorsement of the Medical Department of the University of Louisville, and advocacy of a five years' medical course, now adopted by the Association of American Colleges, is highly commendable. Always ardent advocates of the higher medical education, the ideals for which they have persistently contended we are happy to note have at last been realized.

Kentucky has now but one medical school, which is rated in "Class A" by the Association of American Medical Colleges. This reflects great credit upon the medical profession of the State, and the marked elevation of the standard of medical education now attained will redound to the everlasting benefit of the people.

THE STATE JOURNAL.

The State Association secretary and editor of the JOURNAL deserves high praise for the excellency of his work. The inaugural editorial of Dr. A. T. McCormack is a trumpet of no uncertain sound. It reads thus: "Under the old plan of medical organization, in which the state body confined its labors to an annual gathering of congenial spirits, a medical oligarchy, consisting of the older and more experienced doctors in a few leading counties had been formed, and from this collection of the best in medicine, the younger element, less favored by experience or fortune, were necessarily largely excluded. To Doctor Bullitt is mainly due the smooth working of the transition to a pure democracy in medicine.

"Now the portal of entrance to our association is through its component county societies. Every doctor is judged by his peers and colaborers in his own field. More than half of the doctors of Kentucky are now members of the Association, and most of the others are still not so only because the members of our own profession are but just beginning to realize the momentous change in the methods of society work. It is often difficult even yet for the plain, hard-working practitioner to realize that for the first time in the history of medicine he is, if I may be pardoned the expression, 'the whole thing.'

"This Association is the medical profession of Kentucky—its expression, the composite opinion of the united doctors of the State. No clique nor ring can control it because its more than a hundred delegates, selected as they are, by their home societies because of their special fitness for the business side of our work, elect the officers, appropriate every nickel of the money that is spent, and map out the policy and program of its work. If every hope and aspiration of the doctors of Kentucky should be realized to-morrow, it would only mean a few more years of life to Kentuckians, and that those years should be years of health and happiness rather than pain and decrepitude."

Under the able management of Dr. McCormack and his associates, the JOURNAL has grown from a few small pages published monthly to its present size, viz.: forty-eight to ninety-six pages of reading matter issued bi-monthly. It is a factor of power in things medical; its influence extends beyond the bounds of the State. The literary and scientific excellence of the "Jefferson County Number," published on the 15th of each month, and containing the papers, clinical case reports and proceedings of the Jefferson County Medical Society, is noteworthy, and a marked advantage to the members of that society, since local circulation could not be secured if the proceedings were published in journals out of the State.

The JOURNAL has a decided advantage in being conducted under the general supervision of the Council of the State Association, and can never be dominated by any particular clique or "ring." Under a business management so well organized and systematized, it pays its own expenses and is furnished free to every member of the State and County Societies provided that member is in good standing. The advertising pages are under the scrutiny of the Council, and only such advertisements are accepted as conform to the requirements of the Council on Pharmacy of the American Medical Association.

EDUCATION AND PROPHYLAXIS.

Education of the people in the prevention of disease has made marked advancement in recent years. In nearly every state of the Union societies for the prevention of tuberculosis have been established, under whose influence have been built and equipped sanitaria in which those already suffering from the disease may be isolated and adequately treated. In many instances the disease has been prevented by education and improvement in the hygienic and sanitary surroundings of the home, while cases already developed have been cured or arrested in not a few instances by proper treatment in the sanitaria mentioned. From such prophylaxis, management, and treatment, great good must in the future accrue. The mortality of this dread disease will be markedly reduced with the prevention of untold suffering and distress. All honor to the noble, self-sacrificing men and women who are furthering this most philanthropic work!

The discovery of the tubercle bacillus by Robert Koch (1882) enabled some wise physicians to see down the vista of time the things we realize to-day. But how slow were we to institute them. These prophesies in view of the present situation make interesting reading to-day. In the *Louisville Medical News* (Vol. 13, No. 19, May 13th, 1882) the editor, Dr. H. A. Cottell, in commenting on the discovery of the tubercle bacillus wrote: "In the light of this discovery tuberculosis takes its place among the infectious diseases, and may under proper sanitary restrictions be preventable, or be found amenable to anti-zymotic treatment. No longer in doubt as to its cause and manner of dissemination, the physician will have untold advantage in the adjustment of his treatment to it.

"Of course the importance of this discovery can not now be estimated, but no intelligent physician will fail to see in it the promise of sublime possibilities for therapeutics and preventive medicine, while the hope which he has ever cherished that this great destroyer of human happiness and life might yet be held at bay becomes almost fruition as he contemplates this significant addition to his knowledge of the disease."

From the time that Dr. Robert Koch was forced, to his lasting regret, by his too eager friend Virchow to exploit prematurely, his tuberculin, till the present day, all sorts of juices, gases, vaccines, and animal essences, cultured and uncultured, have been brought forward and vaunted for the cure of tuberculosis. And among the most recent of these are the anti-tuberculosis serum of Dr. Karl von Ruck, of Asheville, N. C., and the turtle serum of the lamented Dr. F. F. Friedmann, of Berlin. Dr. von Ruck and his coworker, Dr. C. A. Julian, of Thomasville, N. C., make such encouraging reports of the results of von Ruck's serum in the treatment of acute and chronic cases of tuberculosis, and the immunity conferred upon hereditary susceptible persons through his prophylactic vaccine, that they have attracted the attention of the Government to their work. Senator Kern claims to have been cured of the disease, and through his influence some Government experts, viz: Surgeon Gen. Stokes and Dr. E. R. Stitt, Medical Inspector of the Navy, went to Asheville at the instance of our Secretary of the Navy, Daniels, to investigate the remedy. According to the newspapers these experts say that the results claimed by Doctors von Ruck and Julian seem to be justified. The Public Health Service is also investigating these claims.

We all remember how, not many months ago, with great flourish of trumpets and much waste of printer's ink the birth of the turtle serum fiasco was announced. Dr. F. F. Friedmann, a specialist of Berlin, came before the world as the progenitor, incubator, and accoucheur of this 19th century babe of promise. The alleged discovery was cabled to the Associated Press by a newspaper correspondent of Berlin, who vouched for its genuineness. As his statements had not been confirmed by the German press or physicians the American people should have been on the lookout for a fraud.

To drop into Twentieth Century metaphor, we saw that the so-called discoverer of the anti-tuberculous "turtle serum" was exceeding the speed limit in its exploitation, and that his vehicle was doomed shortly to "turn turtle" and land in ignominious wreck!

We need not go into details as to the result. It is creditable to the medical profession of America that none of its members gave credence to the statements of Dr. Friedmann nor were any of them taken in by the fraud. However, some somebody, in eagerness to make money out of the fake regardless of results to mankind, gave its promotor "One hundred and twenty-five thousand dollars in cash, and one million, eight hundred thousand dollars in stock. The latter was forced upon the doctor for the American rights to his remedy, and this in spite of his repeatedly expressed intention of giving it to the profession."—*American Medicine,* April, 1913, New Series, Vol. 8, No. 4.

Most of the would-be American investigators who tried to secure specimens of the serum for study tried in vain. Such specimens, however, as were forthcoming were doled out in ridiculously small quantities, and all tests made by them, so far as has been revealed, were failures. This was certainly true in New York whose Board of Health officially announced that the serum was therapeutically nil.

"That tuberculosis can be stamped off the face of the earth is a hygienic possibility, and when mankind shall become as much in earnest in securing health as in securing wealth it will be done." (Doctorate Address of the Univesity of Louisville by Dr. H. A. Cottell, 1905).

TYPHOID FEVER.

Many years ago typhoid fever was called the "American Disgrace" because it was more prevalent and fatal in this country than in any other civilized land. Recently, however, the disease appears to have been modified and the mortality considerably reduced by the employment of the injection or vaccine method of treatment which was originally suggested by Prof. Wright, of England, in 1896, and later improved and elaborated by physicians in other parts of the world, notably by Prof. Chantemesse, of France. The fatalities from typhoid fever in army life have been reduced to practically nil by the introduction of compulsory anti-typhoid vaccination. Would it had been practiced in our Spanish-American war! This measure has been obligatory in the armies of other countries for several years, and was adopted by the United States Government about two years ago. Since that time there have developed but few cases of typhoid fever in the army and navy, with practically no fatalities. For most of the recent data concerning anti-typhoid vaccination we are indebted to the contributions of Major E. E. Russell, U. S. A., under whose direct supervision the method has been employed in the army. The injection plan of treatment, however, has been used in thousands of cases in civil practice, and the mortality there-under has been reduced to less than one per cent, whereas by former methods it was twenty per cent. or over.

Callison (*Medical Record,* June 24th, 1911, pp. 1129 to 1139), concludes a very valuable article on the vaccine treatment of typhoid fever as follows:

(1). The production of antibodies or protective substances in response to the inoculation of a vaccine follows definite fixed laws, regardless of whether the vaccine is given for prophylactic or curative purposes, and the results in treatment must be interpreted in the light of what is known of these laws:

(2). Inoculations of vaccine in typhoid fever prevent relapses and lessen complications, and in some cases probably also shorten the original attack:

(3). Stock vaccines should be given in preference to autogenous vaccines in typhoid fever; the older the culture the better:

(4). When given in therapeutic doses such stock vaccines are without injurious effect, and do not interfere with other treatment:

(5). The routine treatment should be continued until the fever process is controlled by the vaccines:

(6). The dosage used by many of those who have treated typhoid with vaccines in the past has been too small to secure the best possible results:

(7). Every case of typhoid fever should receive vaccine treatment as soon as a diagnosis is made, and this should be continued until the temperature becomes normal or it is demonstrated that the case will not respond to this form of therapy."

As the technic of the injection or vaccine method of treating typhoid fever is probably well known to the majority of those present, nothing more need be said of it here. I wish only to direct attention to the importance of the method, and to suggest that it be thoroughly investigated by the physicians of Kentucky. It would appear that arrangements should be made for the free distribution of anti-typhoid vaccine through the State and Municipal Boards of Health, in order that the people may have the benefit of this valuable preventive and curative agent. The following clipping from the *Louisville Times* shows that our State Board of Health is doing yoemen's service in the prevention of typhoid fever:

"Hopkinsville, Ky., July 29.—Health Officer W. A. Lackey announces that when the health campaign starts here August 4, to continue six weeks, 2,000 doses of anti-typhoid serum treatments will be administered free of charge to the citizens of the county. The opening feature of the health crusade will be an address Monday morning and afternoon at the courthouse by Dr. W. W. Richmond, of the State Board of Health."

There has recently been conducted considerable experimentation in the prophylactic and curative treatment of pertussis by means of vaccine prepared from the Bordet bacilli. It is claimed that freedom from dangerous complications and sequelae can be thus secured, that the severity and duration of the disease are materially lessened, and the mortality reduced, by the early employment of this method of treatment. The pertussis vaccine (combined) of more recent introduction, is said to be of great value not only in the early, but also in the advanced cases. While pertussis vaccine is being employed by a large number of physicians in Louisville in institutional, as well as in private practice, so far there has been no free distribution of the product by the Board of Health.

CANCER INCREASE.

The State Board of Health has accomplished much good in the direction of educating the people of Kentucky in the prophylaxis of disease through the medium of a bulletin, which they issue monthly and distribute without charge to the members of the State Association, and to all others who desire to receive it. The December, 1912, issue of this bulletin contains a popular article upon "Public Stupidity and Cancer Increase" which might be profitably perused, not only by every doctor but every layman in the world. The author (who is not a physician) calls attention to many important points in connection with the cancer problem which are worthy of our serious consideration. There can be no reasonable doubt that malignant disease is markedly increasing in this country, and while "cancer has been a constant subject of study, in all ages and in all nations, the mystery of its origin has yet been unsolved, resistance to its progress has yet been unsuccessful, and the symbolic crab continues to sink its claws slowly but relentlessly into the flesh of its victim. The disease at first local becomes regional; and constitutional; recurring when removed, disseminating when left; undergoing degeneration; intractable ulceration, deep spreading excavation, and is usually followed by cachexia and death!"

Several specially equipped "cancer research" institutions have recently been endowed, the latest only a few months ago, and every aspect of the problem is being carefully studied and investigated. It is hoped the time is not far distant when the etiology will be known and that curative treatment may then be placed upon a solid foundation. Until that time shall have arrived, much good can be accomplished by educating the people as to the imperative necessity of consulting the surgeon more promptly than has been the custom heretofore. At present in early surgical removal may be found the only hope of cure; or at any rate of material prolongation of life. The mortality following late surgical intervention for cancer must always remain extremely high, but with early diagnosis and prompt operative removal, the immediate and remote death-rate may be markedly lessened. The people must be informed of the danger of delay if the greatest good is to accrue to the largest number of these unfortunate patients.

THE HOOKWORM.

The people of Kentucky have abundant reason to feel grateful to the Rockefeller Commission for the work that has been accomplished in the State since the beginning of 1912 in the eradication of hook-worm disease. According to a report of this commission recently issued, it is estimated that in 1912 there were in the United States approximately three hundred and fifty thousand persons afflicted with the hookworm disease. Of this number over twenty-three thousand cases were estimated to be in Kentucky, Knox county alone furnishing over two thousand. During the year there were treated in Kentucky by physicians in private practice, in institutions, etc., twenty-three thousand and twenty-eight cases of hookworm disease, and during the same period there were examined over forty-five thousand. "When it is understood that less than twenty-five cases of hookworm disease had been treated in Kentucky prior to January 1st, 1911, nothing better shows the spirit of our doctors than that eleven hundred and twenty-five of them have gone on record as treating fifteen thousand seven hundred and fifty cases in their private practice in the past twelve months." In the accomplishment of this great work the Rockefeller Commission has had the constant co-operation of the State Board of Health, the State Medical Association, the County Medical Societies, and the local Boards of Health through the State.

In practically all the cases of hookworm disease treated in Kentucky, the diagnosis was confirmed microscopically; over one hundred and fifty thousand specimens having been examined during the two years. Illustrated lectures on the hookworm disease have been delivered in nearly every county, thus reaching approximately eighty thousand persons. The importance of this work cannot be overestimated, and it is hoped the profession of Kentucky will continue to lend their support and cooperation to the Rockefeller Commission until the hookworm disease shall exist only in the memory of the people.

PELLAGRA.

While investigations in Kentucky and elsewhere concerning the etiology, pathology and treatment of pellagra have been actively pursued during the year, there is still apparently no consensus of opinion regarding the primary and essential causative factors; nor, indeed, does it appear that the proposition has been definitely settled as to whether pellagra is really entitled to the distinction of being classified as a disease, *sui generis,* or whether it merely represents a clinical symptom complex. However, as the symptomatology and clinical characteristics are now better understood than formerly, and as considerable improvement has been made in the matter of treatment, the fatalities have grown gradually less frequent. It is no longer regarded as an incurable affection.

During the last year there have been published many interesting articles on the subject of pellagra, notably in the *Southern Medical Journal,* and the KENTUCKY MEDICAL JOURNAL. Since the majority of these contributions to the literature were made by southern physicians who have had abundant clinical experience in the management and treatment of pellagra, they illustrate the present state of our knowledge in a most valuable way.

CEREBRO-SPINAL MENINGITIS.

Especial attention has been devoted to the study of cerebro-spinal meningitis in Kentucky since the Jefferson County epidemic which began in March, 1912, and in which there occurred nearly one hundred and fifty fatalities, the mortality being about thirty-three per cent. When the diagnosis of this disease can be made early, the institution of prompt treatment should reduce the mortality to ten per cent. The best results may be expected to accrue from the internal administration of urotropin, and the sub-dural, intra-spinal or intra-ventricular employment of the Flexner anti-meningitis serum, after the withdrawal of a certain quantity of the cerebro-spinal fluid. It is the rule to inject serum to the amount of about one-half the fluid so withdrawn. When used sufficiently early, the Flexner serum appears to act as a specific in this disease.

During the Jefferson County epidemic, arrangements were made through the Board of Health for free distribution to physicians of the Flexner anti-meningitis serum for use among the destitute who were unable to pay for either medicine or treatment. The majority of the cases occurred among the very poor whose families were generally large. A single family of ten lived in from one to three rooms, having little means of ventilation and no facilities for sanitation. These patients were treated in the emergency hospital. In a number of instances several members of the same family were attacked, and of four children in one family three died.

The employment of the Flexner serum seems to possess a decided advantage over former methods of treatment, in that those patients who recover usually exhibit none of the sequelae which almost invariably follow other methods. Early diagnosis, confirmed by lumbar puncture and microscopic examination of the fluid, and prompt treatment by the Flexner serum and other appropriate measures should further reduce the mortality of cerebro-spinal meningitis. To achieve this desideratum, it is recommended that arrangements be perfected for the free distribution of the serum through all the county and municipal health boards. The following from the *Journal of the American Medical Association* of July 26th, 1913, gives the present status of the case:

"Enough data are available from the epidemic of meningitis which prevailed in the United States and Canada in 1904-1909 and in southwestern states in the winters of 1911-1913 to place the record of fatalities at an average figure well above 70 per cent. for the different communities involved. These figures are duplicated by the statistical information available regarding the epidemics in foreign countries.

The serum treatment was developed during the pan-demic beginning in 1904, to which the high mortality figures given particularly apply. As a result the treatment underwent a singularly rigorous test for its usefulness, since the sporadic cases of meningococcus meningitis tend to be far less fatal than the epidemic disease. The analysis of the results in 1,300 cases actually treated with serum supplied by the Rockefeller Institute and studied in Flexner's report must be a source of permanent satisfaction to American medicine. It shows indubitibly that the mortality of epidemic meningitis can be greatly reduced by the application of the specific serum treatment. In view of the fact that the average mortality during the pandemic was approximately 70 per cent., the gross reduction in the serum-treated cases was somewhat less than two-thirds, that is, to about 30 per cent. The extent of reduction is determined by two factors: the ages of the persons affected and the period of the disease at which the sub-dural injections of the serum are begun. It further appears that fulminant cases of epidemic meningitis are not wholly without the sphere of beneficial influence of the serum."

POLIO-MYELITIS ANTERIOR.

While investigations concerning the etiology and treatment of infantile paralysis have been actively continued, little information of value has been added to our knowledge of the subject during the past year. The treatment is still unsatisfactory, and when the patient recovers, deformity and other sequelae are commonly observed. Serum therapy has been tried by many experimenters in the treatment of this disease, but beneficial results therefrom have not been demonstrated. It is hoped during the coming year that additional light will be thrown upon this obscure and exceedingly fatal disease.

SMALLPOX.

As a result of the continued co-operation between the state and municipal health boards in the matter of compulsory vaccination, quarantine regulations, the isolation of infected persons, etc., smallpox in Kentucky has been comparatively rare during the past year. Sporadic cases have developed here and there, probably the result of exposure in adjoining states, but the activity of the health authorities in all such instances has prevented further dissemination of the disease. Under the improved methods of treatment, there now result but few fatalities in Kentucky from smallpox.

It is notable that the virulence of smallpox has shown great reduction in the epidemics of the last fifteen or twenty years. Compliments of the medical profession to the anti-vaccinationists. This reduction in virulence and in the number of cases occurring from year to year is clearly due to the immunity of the people secured to them by Jenner's sublime discovery.

MEDICO-LEGAL.

An important medico-legal event during the last year has been enactment of the law which provides that there shall be no common drinking cup in public places, railway coaches, office buildings, etc., in the State of Kentucky, and specifying penalties for violation of the act. This law was enacted at the urgent request of the medical profession in the interest of the people, and its advantages are obvious in the prevention of tuberculosis, diphtheria, syphilis, etc.

Since revision of the medical practice act of Kentucky, constant warfare has been waged by the State Board of Health against charlatans of every kind and character. As a result, practically every irregular practitioner has been forced to discontinue business or seek greener pastures for the exploitation of his genius. Not many years ago in the city of Louisville alone there were about twenty "advertising specialists," all of whom have now been driven elsewhere or forced to discontinue operations by the activities of the State Board. One of the last and most notorious charlatans operating in Louisville was only recently tried and promptly indicted, the details of which were published in the JOURNAL.

Of perhaps greater importance is the recently enacted law governing the offense of deliberate and wilful (criminal) abortion. Hitherto there existed in Kentucky no specific statute having for its object the regulation or suppression of this particular crime, and although it was generally known that hundreds of unborn babes were being destroyed by midwives, quack doctors and professional abortionists, conviction was impossible since under the common law abortion was not regarded an indictable offense unless the mother also perished. In addition to this wholesale slaughter of the innocents, mothers not infrequently succumbed from septic peritonitis after operations performed by the abortionists, but, from lack of direct evidence, conviction of the offender could not be secured. Before this new law became operative professional abortionists flourished and maintained elegant offices in nearly every important city of the State, and especially was this true in Louisville. The majority of them have now been forced to abandon such criminal practices or seek other fields, and the few remaining transact their business with such a degree of secrecy that detection and conviction will be extremely difficult of accomplishment. Every member of the profession in the State should continue to co-operate with and assist the State Board of Health that this evil may be eradicated. Criminal abortion is not, as has been claimed, "a necessary evil;" it is a criminal offense, and the perpetrator thereof should receive punishment commensurate with the gravity of the crime.

While the subject of expert testimony in relation to damage suits has been agitated during the past year, so far as I am informed nothing definite in the way of improvement of existing evils has yet been accomplished. There is certainly need of reform in this direction, and some means should be devised for ascertaining the qualifications of all those who are summoned before a jury to give expert testimony upon any particular subject. Under present circumstances and conditions, the veriest tyro in medicine cannot be prevented from posing as an expert medical witness, and as a result of collusion between the so-called "expert witness and the contingent fee lawyer," there is not infrequently a gross miscarriage of justice. This has been often illustrated in damage suits for personal injuries, in Louisville and elsewhere. Moreover at present, there seems no possible way of preventing the introduction of so-called expert testimony by those scarcely within the pale of medical legitimacy, and based upon such manufactured or previously agreed upon evidence, heavy damages have been assessed in cases where the jury should have rendered a verdict in favor of the defendant. It has been said that there are three varieties of liars: (1) common liar, (2) d— liar, and (3) the expert witness. It is believed the third may be distinguished as the greatest menace to the profession and the people, and it is hoped that during the coming year some plan will be devised for the correction of this evil which has in recent years assumed huge proportions in Kentucky.

Much good has come to the profession of the state from the establishment of a medico-legal department of the state medical association. The object of this department is to afford legal protection to members in good standing in unjust suits for malpractice. In the event such a suit is filed, the department furnishes an attorney whose fees are paid by the association. Owing to the activities of certain members of the legal fraternity, called for want of a better name "contingent fee lawyers," occasionally assisted by a doctor who is perhaps influenced by envy, prejudice, professional jealousy, or who has been so unwise as to openly criticise his brother practitioner, lawsuits for alleged malpractice have hitherto been quite common in Kentucky. However, since it has become generally known that counsel for the State Medical Association is at all times prepared to defend its members, such litigation has grown gradually less. In the majority of instances, when the lawyer for the plaintiff is informed that one of the most able attorneys in the State will resist the claim of his client, the suit is either withdrawn or abandoned.

It is pleasing to note that since the establishment of the medico-legal department of the State Association in not a single instance has a verdict been rendered in favor of the plaintiff in a suit for alleged malpractice in Kentucky, thus amply demonstrating the wisdom of having such a department for the adequate protection of the medical profession. In former years, when such litigation against the physician or surgeon was upheld by the courts, evidently through misunderstanding of the facts, or through misrepresentation of the expert witness and contingent fee lawyer, the verdict against the defendant being mainly based upon such manufactured evidence, there was a consequent gross miscarriage of justice in many instances which encouraged a species of legalized blackmail, the plaintiff and the lawyer being the beneficiaries. In this connection it is gratefully acknowledged by not a few of us that in such medico-legal distresses the brother physicians and surgeons have rallied to our help with unanimity and hearty good will. "A fellow feeling makes us wondrous kind." But thanks to them all and always never-the-less!

In this connection the *Journal of the Kansas State Medical Society,* February, 1913, has the following to say: "That malpractice suits against physicians are on the increase, there can be no doubt. The reason for this condition of affairs is hard to explain. Certainly not because of less scientific treatment given by the physician of to-day, for his qualifications are being raised constantly and his ability to treat patients more scientifically with greater knowledge and appliances is unquestioned. It may be laid at the door of the shyster lawyer, who instills the desire to get something for nothing in the mind of a patient who previously had not a thought of blaming the doctor. To meet this condition, we must not be asleep. The state society, through its medical defense committee, is doing fine work in defending these suits, and the members are not slow to realize its benefits. The prevention of these suits for malpractice is a subject worthy of thought. We should in the first place be very chary of offering criticism of another's work, all such being eagerly taken up and magnified by the patients, their relatives and friends. It sometimes happens that physicians' opinions as to the proper way of treating a case differ widely yet each may be right. It is then not for you to judge the case of your neighbor, but simply do the best you can for the patient and be content. Do not let professional jealousy tempt you to make some remark that may be the means of starting a malpractice suit. The Lord knows we all have failures enough at best, but to ascribe it to bad medical treatment would be most unjust."

The people and the profession of Kentucky have reason to feel thankful to Congressman Swager Shirley for securing the passage of an important amendment to the National Food and Drug Act of 1906. By this amendment, which passed both Houses unanimously, practically all the disreputable patent medicine vendors have been or will be forced to discontinue business.

The Food and Drug Division of the State Association, at Lexington, has also been doing most excellent work for some time in the examination of drugs and chemicals suspected to have been adulterated, with correction of misleading labels, advertisements, etc. The addition to the experiment station has been completed, and the scope of this division has been largely extended. This important work should receive the hearty endorsement and approval of the profession, and the thanks of the people of Kentucky.

EUGENICS.

The last hygienic measure of reform to claim our attention here is eugenics. The selective breeding of physically and mentally perfect men and women, or, the survival of the fittest through sexual selection. Apropos of this a clipping from a daily newspaper headed "Pure Marriage Law Passed in Wisconsin. A Measure Requiring a Certificate of Health as a Marriage License Requirement," makes most interesting reading.

"Madison, Wis., July 25th.—The Wisconsin Legislature to-day passed a bill requiring a certificate of health from both parties to a nuptial agreement as a preliminary to the granting of a marriage license. Examinations by physicians are required.

Both houses passed a bill for the sterilization of the feeble-minded, epileptic, and criminal insane in State and county institutions."

In this connection it is noteworthy that one or more of the Theological conventions and Ministerial conferences have decided in favor of the passage of statutes equivalent to the above, and have urged several of the state legislatures to act favorably upon the same.

The promoters and would-be precipitators of such Eutopian schemes are born an eon too soon. They must wait till the dawn of the millenium for the realization of their hopes. The arena of human action is not the pasture or the barn yard, nor can love affairs be regulated by catalogues of pedigrees and performances upon the track. Some legislation looking to the prevention of the feebleminded, insane, and chronically diseased from reproducing their kind would seem to be in order, but the way to effect it must be devised by wiser heads than ours.

If we see clearly, the only measure likely to prove effective in protecting the innocent from the consequences of the sins and weaknesses of their parents is through the prophylaxis of venereal diseases. This can be brought about only by the licensing of houses of ill fame and the rigid inspection of both male and female participants, backed by sufficient quarantine. As things are to-day such a law as that passed by Wisconsin legislature will not keep the subjects of the most subtle and pernicious diseases from infecting their conjugual partners or, reproducing their kind.

Moreover, it is not improbable that illicit relations will be encouraged if not promoted by such feministic folly. As Henry Watterson would say: "Sumptuary laws don't sumptuate!"

Forty-two years ago, a new born M. D., I entered my name on the list, paid $3.00, and became a full-fledged member of the Kentucky State Medical Society.

Considering the matter fiscally the cost has been $123.00 cash at the window, plus railroad fares, hotel bills, cigars, and—and *coffee*;—but no joy rides. As I have never missed a meeting, (save when rheumatism made locomotion impossible) I might add a few lost fees to the items as the price of fidelity to the cause. So much for loss; but what has been the gain? In knowledge, in social craft, in professional good will, in the making of friends whom I "grapple to my soul with hoops of steel," the reward is simply immeasurable.

As I look back over forty-two years of service in the School of Esculapius, the scene, though checkered with dark and light, with cloud and sunshine, with flowery and with thorny paths, is a pleasing one.

Though hope was often vainly placed, and ambition fell far short of the mark, friendship, love, and good cheer, with the sense of good done through earnest work, and faith in God, in humanity, and the final triumph of good, have been my comfort, and my stay.

To-day I stand here happy and proud. Happy to have lived so long in the companionship of so many faithful and noble colleagues, fellows, and friends; proud that I espoused a profession that down the ages from Hippocrates to Erhlich, has through the earnest, untiring, and unselfish labor of its devotees, piled Pelion on Ossa in discovery after discovery, and in adding beneficent gift to beneficent gift for the good of man, until the philanthropic resultant stands like Mount Blanc or Everett, the wonder and admiration of the world! (Prolonged applause).

ANNUAL ORATION.

PREVENTION IN MEDICINE.*

By Olin West, Nashville, Tenn.

It is with a sense of unworthiness that I appear upon this occasion at the behest of the Program Committee of the Kentucky State Medical Association, and this feeling bears more heavily upon me when I think of the able and eloquent men who, in the past, have performed the task that is assigned me for to-night, and when I realize how far short of the standard established any effort of mine must fall. However, feeling that a call from my professional brethren is a call to duty that must be responded to, I shall try to direct the attention of this audience to some matters which we believe need and deserve the careful joint consideration of the public and the medical profession. There are hosts of facts, some of them general and some specific, pertaining to the relation of the doctor to the people and pertaining to public health which we would have the people to understand. Only a few of them can be discussed here to-night.

There was a time when disease was thought to be inevitable and was considered only in its bearing upon the individual affected. The effort of the doctor in those days was, of necessity, directed to the control of disease after it was come, he combatting its manifestations with such means as experience led him to believe most efficacious. The lack of knowledge of the specific causes of various diseases made their treatment the part of medicine to which the study of the practicing physician and the student was most largely devoted. A wall of reserve, not to say secrecy, invested medicine. The people, when sickness invaded their homes, were told only what was necessary for them to know in order that they might give prescribed medicines at the right time and otherwise care for the individual comfort of the sick. Nothing known to the medical profession that would protect the public was withheld, but, except in the case of a few obviously contagious diseases, there was little to tell that would help the people to escape infection. At all times, however, medicine has busied itself with investigation designed to put its art upon a strictly scientific basis, and primarily intended to discover truths and invent methods that would protect human life and help people as individuals and collectively, to live in health and happiness. Throughout the years a host of tireless workers have been unselfishly applying themselves to the solution of problems pertaining to the health and lives of humanity. The results of these investigations, carried on at the expense of great sums of money, great labor and much time, and, in numbers of instances, at the expense of the lives of the investigators, have been freely given to the world so that all men might profit. Rent after rent has been torn through the old wall of reserve, and through each opening, as it has been made, medicine has given some boon to humanity without money and without price. As each new truth concerning the nature and effects of disease has been developed it has become more and more apparent that sickness affects not only the welfare of the individual attacked, but the community interest as well, and the doctor has gladly assumed the broader duties that have devolved upon him and has tried to serve the whole people with his ministrations.

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*Delivered before the Kentucky State Medical Association, at Bowling Green, September 2, 1913.

To-day the watchword in the fight against disease is "prevention," and organized medicine is doing its best to let the public know all that has proven effective in the conservation of health and life. And yet, notwithstanding that doctors have given their time and money and labor to the finding of the truth, have given their lives to prove the effectiveness of methods which they have devised for the protection of mankind, and have published to the world without hope of personal gain the truths they have digged out, there is a disposition to question motive; a skepticism that scoffs and refuses to be convinced or even to investigate the facts; an ignorance that resists enlightenment; and, in certain quarters, there is waged an active, persistent fight to combat unselfish effort of the medical profession. None of these things will deter, however, and medicine, through its organizations like the American Medical Association and the Kentucky Medical Association, through public health agencies, and through individual members of the profession will bend to the task of further discovery and, as always, will give to the world the benefits of its struggles and triumphs. We have no time to waste on the fellow who questions motive; we will trust the efficacy of evolved methods of prevention to convince the skeptic, soon or later; we will take advantage of every opportunity which offers to dispel ignorance; and we will fight to the last ditch the fakirs and the sects who fight us in order that their fraudulent practices and sentimental theories may enable them to continue to garner a rich financial harvest from their victims or their devotees.

Modern medicine would have the people to understand that the basis of all material welfare is human efficiency and that the only way by which human efficiency can be maintained at a high standard is through the conservation of human health. We would have the people to know that the best way to combat disease and conserve health is to prevent disease. Before preventive methods can be devised and applied and helpful assistance rendered for the relief of the sick, we must know the facts pertaining to the causation, transmission, communicability, and effects of disease, and we must have men with a trained knowledge of the facts who possess ability to apply preventive measures, who are capable of carrying on investigations, and capable of imparting their knowledge to those who are to fill the ranks after they have fallen. For the training necessary, years of preparation are required. Men of the right sort must enlist under the banner of medicine; men with the love of humanity in their hearts —not mushy sentimentalists who will yield to every whim of patient and people, nor yet men of adamant who cannot be moved, but men who can feel the sympathy that suffering should call forth and yet stand firm for what is best for patient and people; men with mental, moral, and physical stamina, and with preliminary education that has fitted them for scientific study and scientific practice. To prepare these for their high duty, we must have facilities of the first class for teaching medicine; schools and hospitals with endowment sufficient to allow them to do the best work; with teachers equipped and paid to justify them in giving their lives to research and teaching. The day of the commercial medical school has gone and the day of the endowed school and hospital has come. Medical education that educates cannot be paid for out of fees that can be collected from students. The proper training of physicians and sanitarians who are to guard the health of the people is a matter of importance to them, and the state can do no better thing than to endow the medical department of its university along with its other departments, nor can the philanthropist better apply his donations than to medical education.

After having spent years in study and hospital work preparing himself for service, the honorable doctor deserves protection by law against charlantry and fakery. It is his right just as it is the right of the honorable lawyer that he should be guarded from the unworthy competition of ambulance chasers and adventurers. But the medical profession appeals to our law-making bodies for laws that will set high standards of proficiency, not for the personal interest of its individual members, but because we know that the public must suffer at the hands of quacks, faddists, and incompetent doctors. Organized medicine believes in high standards and wants them established because of a love for medicine and because we want our well loved art to render the widest possible service.

We would have the people know that much disease is self-limited and that the person attacked will, if he has the necessary individual resistance, get well in due time. The physician, in cases of this sort, can only watch for danger signs, direct such treatment as will help to keep the resistance of the patient up to the strength necessary to overwhelm the offending agents, and give to persons exposed such information as will help them to escape invasion and protect the public. Good doctors are sometimes condemned and bad doctors and quacks credited with marvelous "cures" because people do not understand that certain diseases must run a certain course. A relatively large number of all the sick will recover with treatment, without treatment, or in spite of treatment. Quick to realize this truth, an army of unprincipled and conscienceless exploiters have invented mysterious appliances, devised so-called "systems" of treatment for disease, and flooded the market with vile concoctions of secret composition which we know as "patent medicines." Their appliances, which they claim are capable of generating wonderful electric currents with marvelous healing power, usually consist of an assortment of gas pipe joints with an elaborate arrangement of wires and are no more effective in the treatment of diseases than any other pile of iron from the junk sellers heap. Their vaunted "systems" consist in the application of well known methods of treatment applied under their unskilled direction, or the practice of such silly procedures as would put an old fashioned negro "hoodoo" to shame. Their secret nostra are combinations of drugs that are either inert and harmless or really harmful, many of them having absolutely no physiological effect, while others contain dangerous habit forming drugs that debauch and destroy their users. These vultures prey upon the poor and the ignorant and upon the victims of chronic and incurable diseases. Their most fuitful field has been found in the United States and the American Medical Association, through its *Journal,* has exposed their fraudulent schemes. Powerful aid has been given in this movement by influential lay journals and and the official organs of state associations. The fight will be kept up until the last quack and the last soothing syrup have been relegated to oblivion.

Scientific investigation and the resulting invention of preventive measures will not control disease to any very great extent unless the understanding cooperation of the public can be secured in the application of these measures. This cooperation will be had only through the education of the public. The people will be educated in disease prevention by the concerted and continued effort of several agencies. The family doctor will do his part in his every day private practice by informing patient, nurse, and family about the precautions that must be observed, why these precautions are advised, and how preventive measures must be applied. For instance, the doctor in charge of a case of typhoid fever will tell the responsible members of the family the necessity for the careful disinfection and disposal of all discharges from the body of the patient; the danger of contamination of food in the house by flies and fingers of attendants; the importance of keeping out of the sick room all except those necessary to care properly for the patient; and will make clear why these things are important. He will explain the necessity of having sewer connection for the home in the city and a sanitary closet for the home in the country, as a help in the prevention of typhoid and other water-borne and soil borne diseases The physician, in another capacity, will assume his civic duty and serve on school board, town council, and in state legislature, giving in these places the benefit of his knowledge and training. The medical profession as a whole will propose laws for enactment which will operate for health promotion. Can any give a valid reason why medical men should not lead in matters pertaining to the public health? To whom shall we look for leadership if not to the men who come in daily contact with disease, devote themselves to constant study of its manifestations, observe and understand the devious channels through which it operates to reduce human efficiency and destroy human life, and offer themselves, in times of danger when death dealing missiles of war fly thick or when epidemics rage to minister to the wounded and the sick and plan and execute the measures which will protect the masses? Shall we look to the Hartmans, the Knoxes, the Byes, the Reynolds, whose pictured portly forms stand out in flaming advertisements in the columns of the daily papers or on billboards on our streets? Shall we look to the layer-on-of-hands or the "readers" of some of the present day sects? Shall we look to the producers of "sarsaparilla compounds," perunas, and soothing syrups? Or to the manufacturers of products which find a wide use in the preparation of these pernicious concoctions? Did ever you hear of a Knox, or a Hartman, or a Reynolds exposing himself to the dangers of fever and pestilence as a protector of the people whom they profess to love so well? Did ever you hear of a layer-on-of-hands or a "reader" volunteering for service in time of war or going to the front to combat epidemic disease? No, you never did. Their treatment at such times is all "absent treatment." Did ever you hear of the leader of an army who would trust these if they offered? And did ever you hear of a people who were content to put their safety in such keeping? No, you never did. But these are the forces marshalled against all progressive legislation proposed by the legitimate medical profession for the protection of the health of the people. They come, not in person, but through their paid attorneys and hired henchmen. They subsidize what part they can of the press, they have their own periodicals edited by shrewd manipulators of language, they contribute a large part of the income of so-called religious papers, they pretend to organize great "leagues for medical freedom." They use the names of men and women of prominence without asking for their permission, and they howl "medical trust" at the best men of medicine who have organized themselves into societies and associations for the promotion of medical knowledge and for the service of humanity.

Popular lectures by proficient men from the ranks of the medical profession will help to put the people in possession of useful facts pertaining to health preservation. These lectures, as well as other educational efforts, must present cold facts. No sky-scraping boasting of the triumphs of preventive medicine which does not explain the modus operandi is going to avail; the presentation of glittering generalities, with the idea always uppermost that the supersensitive modesty of some fastidious hearer must not be shocked, will not help any one to ward off the injury of industrious disease germs which pay attention neither to fastidiousness nor slovenliness. The triumphs of preventive medicine have been glorious, and the history of her heroes is a glorious history, but the recital of this history, however, will not help the public to keep well except in so far as it may stimulate a few to investigate the story of past accomplishments and discover the how and the why of preventive measures that have been devised.

The public press has done a great deal and will do a great deal more for the instruction of the public in health matters. Certain great periodicals with a nation wide circulation have been waging a winning fight for health; daily and weekly and monthly journals have given freely of their space for the printing of helpful information. The value of this service cannot be estimated. It sometimes happens that papers get things a little wrong, but the aim of our press is to help.

The public school will do more for the education of the whole people than any other agency by the teaching of hygiene and sanitation and by the application of the principles that are taught in school room and on school grounds. The children will help the job along by demanding in the home measures and methods the efficacy of which they have had demonstrated to them in the school. The teaching of hygiene and sanitation will not be effectively nor correctly done by teachers unprepared who must use text books which have been foisted upon the state by some publishing monopoly because they can be sold at a huge profit. The simple truth is that many of the so-called text books on hygiene now used in public schools are half-hammered treatises on physiology with a smattering of hygiene presented in a way that is neither scientific nor helpful. School teachers and educational leaders all over the land are engaging in the fight, and most of them who can at all afford the cost from the meager pittance which they receive, are getting themselves ready to do more effective work for health.

Another influence which has already been powerfully felt in the enlightenment of the public mind in health conservation is that wielded by organizations of a semi-social-semi-public nature, the clubs and civic societies. Speaking from a purely personal standpoint, with the truest appreciation of what has been accomplished by these organizations, I believe that there are too many of them, that energy and money are being wasted and effort misdirected. Too much machinery is sometimes as bad as no machinery, and certain it is that all the machinery in any shop ought to have a central power plant for the sake of efficiency and for the sake of economy.

Through wholesome legislation will much be accomplished for the education of the masses and for the restraining of those who would override established principles of sanitation.

Great industrial concerns are equipping their plants with life saving devices and are conducting schools of instruction for their employees. The educational value of these will be far reaching.

Upon the established public health service, with national, state, county, and city units, will develop the greatest responsibility in this matter of educating the people. These departments can, if properly organized and supported, wisely direct the efforts of agencies heretofore mentioned, can see to the enforcement of laws, can institute restrictive measures, supervise or cooperate in the construction of public buildings, offer helpful suggestions in the management of public charities, conduct educational campaigns of far reaching influence, maintain active field operations, and, in many other ways promote the cause of public health. These departments must, if they are to give the best service, put their work on the basis of merit and conduct it along scientific lines of proven worth. No firecracker, hullabaloo, sensational procedures are going to have lasting benefit. The converts of our present day-so-called revivals are soon to be found among the back-sliders. Lasting results must be founded upon reasonable and meritorious effort. Your own State Board of Health is a leader among public health service organizations and is worthy the support of your whole people.

The ideal health service will comprise national, state, county and city units, conducted under the supervision of trained men and adequately supported by public sentiment and in a financial way. The good that these departments can do will be limited only by the support that is accorded them and the fitness of the men who are to direct them. With our large rural population, it is probable that the county health officer is the key stone in the public health arch. The opportunities for helpful service which offer themselves to the vigilant county health officer are very numerous and the possibilities of accomplishment very great. As at present constituted the county health service is not efficient. The county health officer is chosen by courts or commissions and many times the place is filled without due regard to the fitness of the man for the place. Some times a pensioner is chosen, sometimes a political heavy weight with no knowledge of preventive medicine and no interest in its advancement, sometimes a settler of old scores personal in nature, and, sometimes a man with a real interest in public health and preventive medicine and the ability to do the work that ought to be his to do. None of them are paid adequate salaries and none of them are properly supported and encouraged by the people. An active, intelligent, wide awake, well trained, well paid county health officer engaged for his whole time can bring back more returns upon the invancement of every material interest of his office than any other single public officer. The time at our disposal will not permit me to point out the many lines along which the county health officer can work for the advancement of every material interest of his people, but these will be apparent to any who will give the subject a little careful thought.

The education of the public will involve the eradication from the popular mind of erroneous ideas which have taken deep root as well as the inculcation of new truths, and certain half truths, alright as far as they go, must be supplemented by the other half to make them complete and serviceable.

The people understand that poverty breeds disease, but they have never gotten firm hold of the other half of this proposition, that disease breeds poverty. There are many dwellers in hovels to-day who once made their homes in proud mansions whose beveled doors did not bar disease with its impoverishing influence.

The greatest fear and consternation are created among the masses by epidemics which quickly come and as quickly go, taking their toll of human life in a way that is spectacular and awe inspiring. But the diseases that work quietly, insidiously, and everlastingly, and which really produce the bulk of the deaths that come to us are viewed with complacency and the people refuse to be perturbed. Smallpox kills its one and twos, consumption kills its hundreds of thousands. Meningitis kills its dozens, infantile disease due to bad feeding and bad hygiene kills its thousands. Acute disease disables thousands for short periods of time, malaria and hookworm disease reduce the working capacity of thousands for long continued periods. We must awaken the people to appreciate the retarding and devastating influence of the slow working and chronic maladies and we must create in their minds a wholesome fear of these and persuade them to be observant of the practice which will tend to suppress them.

A large part of our population has already come to understand that a great deal can be done for the suppression and prevention of contagious disease, but few appreciate that surgery can do a wonderful work of prevention and correction if applied before extreme conditions have arisen. In our large cities and centers the operation for appendicitis has been so often done with good results that the urban population has been convinced of its life saving and health preserving virtue.

The jokesters and space-fillers have made it the theme of much ink-spreading. But there are still many in remote districts who do not know what appendicitis is and do not know of the help that surgery can give. Why should the people not be told that the operation for appendicitis is the rational treatment? What if some cynic or over-suspicious pessimist does deliver himself of a howl to the effect that we are trying to send grist to the surgeon's mill? If the truth will help, let's tell it abroad and let the howler howl. One woman in every eight who reaches the age of thirty-five dies from cancer, in some organ. Our only hope for the cure and the prevention of the development of cancer lies in surgery applied early. Should the howls of the howler deter us from spreading this truth abroad until every woman in the land knows her danger and her best chance for relief if attacked? Appendicitis when it does kill, kills just as dead as cancer does. Deformities that twist the limbs and bodies of little children, crush their spirit, and reduce efficiency in later life can be relieved through the corrective work that surgery can do. Preventive and corrective surgery offers results as helpful and effective, within certain bounds which can be definitely outlined, as do preventive and corrective measures in other fields, and the public should know it.

Approximately 250,000 babies less than twelve months old die each year in the United States. There is no justification for the advancement of the idea that these quarter million innocent lives must be yielded up in order that the fittest may survive. Our land is not overpopulated, our fields are fertile, no famine has ever cursed our country and none ever threatens, our resources are rich, and opportunities for healthful and profitable work abound. We need citizens, and we need the home-made product.

"Of one hundred deaths under one year," says Jacobi after a careful study of statistics, " 2.2 per cent. die from injuries during birth, 10 die on the first day, 25 within the first two weeks, and 34 during the first month." That statement contains what organized medicine believes to be a pretty good reason for demanding better trained midwives, and for wanting better teaching and hospital facilities for making better doctors.

From two to three times as many babies whose mothers furnish their food will live compared with the number who are artificially fed, and the mothers who cannot furnish food for their babies are few and far between. Card parties, theater parties, country club parties, automobile parties, and fashion's dictates are not compatible with the welfare of infants. Artificial foods, prepared by manufacturers with a wonderful interest in humanity in general and that part of it which cannot eat pork and beans in particular, have helped ease the consciences of many mothers who had manifold duties to perform, and have helped to swell the juvenile chorus of the heavenly choir. These foods have their place, but none of them can fully substitute for nature's method of feeding babies. It is certainly not right that they should be dangled before certain mothers in pretty advertisements in popular journals with the advice to "do as thousands of other mothers have done and try twelve feedings at our expense." Pictures of fat babies who have been "raised" on artificial foods are easy to get. I believe in artificial foods for babies, but I object to some of the methods of manufacturers of these products. Each baby should have its artificial feeding directed for its own individual needs, and should not be fed by a general formula.

The greatest enemies to young life are dirty food and too much feeding. If we can teach the mothers of babies the simple truth that clean food is the only safe food, whether it be furnished after nature's own plan or whether it be artificial, we shall achieve wonderful results in reducing infant mortality. When we can supplement the above teaching with the further simple truth that every cry of the infant is not a plea for more food, but, on the contrary, that the child often cries because too much food has already been had, then we shall have removed two of the most potent causes of the destruction of innocent young life. No matter what grandma says, the baby should be fed definite quantities of food at definite intervals. This is a part of the education of the public and it must be begun in the school where future mothers can be reached and impressed.

After infant life has been preserved, environment must be created and precautions observed that will guard the health and lives of childhood keeping the strong strong, and giving the weaker child the very best chance for acquiring strength. The fathers and mothers must be taught that measles and whooping cough and scarlet fever are not inevitable. They must be made to understand that these diseases are fatal within themselves and peculiarly fatal because of complicating conditions. They are indirectly responsible for disease, disability, and death in later years. Let us teach the whole people that exposure of children to communicable disease is criminal, and that isolation of every case of communicable disease is humane and life saving. Our death list from bronchitis and pneumonia in children, our numbers of those who are partially or completely deaf and blind, our disabled from disease of heart and other organs, our roll of the dead from tuberculosis, are all added to because of the communicable diseases of childhood.

When the American housewife has learned that neither the quantity nor the quality of food served upon her table is more to be considered than its proper preparation and the balance of the ration served, our progress toward a nation wide condition of "dyspepsia" will be impeded if not estopped, and the insubordination of man will be quelled. There are starving people all over our land to-day, starving with plenty of food of good quality which has been so badly prepared that its digestion is impossible to any digestive apparatus not equipped with a rock-crusher and an automatic fountain filled with aqua regia. There are others starving in spite of food partaken in generous quantities because their food does not contain in proper proportion the various elements that are needed for the building and maintenance of strong muscles, nerve and bone. The teaching of Domestic Science in all of its branches in our public schools will do a great deal for public health and for reducing the high cost of living.

When the American man-head-of-the-house, generally more thoughtless than selfish, can be brought to realize that every step-saving labor-saving, worry-saving device within his reach ought to be installed in his home for the convenience and protection of the health of his wife and daughter, the invalidism of women will be reduced, happy homes will more abound, the public health will be conserved, and woman's suffrage will have received a body blow. Women are working and slaving their lives away unnecessarily because of the drudgery imposed upon them by lack of easily provided conveniences and labor-saving devices in the home. If the men folk would spend one-third the time they give to sitting on the fence whittling and talking politics in putting water into the house from the spring and in putting other conveniences within reach of the housekeeper, mothers would have more time to care for their children, and, once in a while, would find time to relax and give their tired nerves a chance to reestablish balance. Whatever contributes to comfort and contentment in the home aids powerfully in the keeping of health.

"The child's the thing." In the school he must be surrounded with conditions that will protect and insure his health if he is to receive the benefit that the school is supposed to bestow. In the first place, he should not be put into school simply because he has reached the school age. Many children can endure school routine before they have reached the age of seven, but many others cannot do so without damage at greater age. The selection of teachers for young children is a matter of tremendous importance from the health standpoint, though it seems that our people are obsessed of the ideas that just any body will do to teach the "A B C" classes. The truth is that the teacher for the baby classes ought to be the best trained teacher and the best paid teacher in the whole school. Isn't it a bit remarkable, when we come to think of it, that we are willing to entrust our little ones at the time when their minds are most impressionable and their bodies most tender to the direction of gum-chewing, ribbon-bedecked, beau-winning, giggling girls at twenty-five dollars a month for three or four months? We require a great deal more from dress makers and stenographers and pay them better than we do in the case of teachers. Isn't it a bit remarkable that we will send our older boys and girls into the care of a man who is willing to put up with a monthly stipend of thirty or forty dollars a month. We pay ditch diggers and horse drivers as much or more. Many of our teachers are noble, devoted, unselfish men and women. Those of this class are underpaid and overworked. Those of them who can at all afford the expense that attaches are taking advantage of every opportunity to improve their equipment for teaching. From a public health standpoint, from which I am viewing the situation, we need better teachers in a great many places. The old log school house has done a glorious work, and its work is done. Under our government it is proposed to give every child free and equal opportunities for acquiring an education. In extending these opportunities to the children, the state should obligate itself to see to it that every child is afforded the protection that will insure its return home in at least as good physical condition as when it came to school. This cannot be done if the sick and the well are crowded together into unsightly, unsanitary, and poorly equipped buildings which have been erected upon sites that would be waste ground unless used for school purposes. Desire for uplifting education and respect for the beautiful and the good cannot be inspired in our children by herding them into dark and dirty huts. Children whose tendency by nature is to wriggle and twist and long for freedom suffer severe nervous strain and are tormented in body by long hours of confinement during which they must sit upon benches which are designed for giants or pigmies as chance may have it. Healthful and enjoyable relaxation and exercise cannot be had by children turned out at the recess hour upon so-called play grounds that would tax the agility of a goat to get to the top of.

If our children are really to have free and equal opportunities for education their health must be the first consideration. As a general proposition, it may be stated that mental development depends upon physical growth and physical comfort. The normal child must be kept normal, and the child who is below par must be brought as nearly up to the standard as can be done. The child whose vision is defective, that one whose hearing is dulled, that one who suffers "air hunger" because of occluding growths in the respiratory tract, that one who is tortured by the constant irritation and retarded by impaired digestion caused by intestinal parasites, that one whose body is distorted by deformities that prevent his entering into the joys of his fellows' games and contests, that one who is flushed with the fever of an acute illness—none of these has an equal chance with the healthy well-developed child. Some of these, in addition to their own retardation and suffering menace the health of the well. Medicine offers our educational system aid in the way of medical inspection. We would segregate the mentally defective, we would remove the sick with communicable disease, we would offer relief to those with defects of vision and hearing, we would have the hookworm disease and other chronic diseases that are curable treated, we would offer opportunity for the correction of deformities, we would have children taught in school houses that are attractive, commodious, well lighted, well ventilated, and well equipped. We would have furniture made to fit the child and would not have the child bent or elongated to fit the furniture. We would have school houses built upon sites that are convenient, well drained, with room for the boys and girls to play real games, with a water supply that is guarded against contamination, and with sanitary conveniences that will protect from disease.

The asylums and alms-houses and prisons of our country are filled to overflowing. We have been so busy building quarters in which to house the insane and the pauper and the criminal that we have not had time to devote to a consideration of the influences which are operative in producing such a large dependent throng. Alcoholism, drug addiction, the so-called "social diseases," and other impoverishing diseases are responsible for most of our insane, our paupers and our criminals. Again we must look to the school and the educational effort of health agencies for relief. Mere legislation, helpful and necessary as it is, will not prevent drunkenness nor any other sort of debauchery. Our children must be taught the dangers of alcoholic indulgence while they are yet children. The sale of habit forming drugs which disable and debauch, dishonor and destroy their users must be severely restricted. The patent medicine vendor who plays upon the fears of the hysterical, the ignorance of the untutored, and the hopes of the incurable and sells them secret nostra which many times contain enslaving drugs must be put entirely out of business.

The control of the "social diseases" will be hard to effect, but there is good reason to believe that the teaching of sex hygiene will begin a movement that will, in time, sweep away this terrible blight with its devastating influence. It seems that we do not know yet how best this subject may be taught. The modesty of our people must not be shocked—oh, NO! It is alright to send boys and girls to the theater to look upon women trimmed in just about enough clothes to dust a medium sized fiddle; and listen to vulgar "jokes" that would incite a graven image to hide its face and flee; it's alright to send them to hear so-called sex-plays that teach no moral and have no respect for morals; it's alright to veil girls in "X-ray" skirts that make the slit hobble look like an impenetrable wall for transparency; it's alright to dress up, or rather to undress, girls and young women and send them to the ball room to dance the tango and the bunny-hug; it's alright to put a premium on the scintillating wit of the "smutty joke" teller and have him the center of the circle in the drawing room; it's alright to look upon young wives and mothers drag along through miserable years of semi-invalidism during which their children must be neglected, and finally come to the operating table for operation that unsex them and many times give but partial relief; it is alright to shut out the light of day from childrens' eyes and send them stumbling through a dependent existence; we can continue to fill our poor houses and asylums and jails and when they are filled we can build more; but, don't, for goodness sake, don't shock anybody's modesty! Think it over!

In closing, allow me to relate a story, now old, that has gone the rounds of public health journals which illustrates our main point. A little city was builded upon the edge of a dangerous cliff, so the story runs, and its people kept falling over the edge to be picked up maimed or dead and hauled away by the ambulance which was always there at the bottom of the precipitous bluff. It finally dawned upon the minds of the leaders among the people that something should be done to stop the loss of life and limb. A mass meeting of the citizens was called and two propositions were considered, one faction wanting to build a fence around the edge of the cliff that would prevent the unwary from falling over. Another faction insisted upon maintaining the ambulance to pick up the injured and the dead. The ambulance won the day.

Modern medicine is for the fence. We want to abolish the old ambulance that has rumbled along during all the years hauling in those who have been crippled and killed by preventable disease and preventable accident. We want a strong fence with education of the masses for its frame work. We want a well financed, well supported public health service to keep the gates and the cracks closed against disease that waits without. We want legislation that will restrain the careless within the gates. We believe that health and life are worth saving and we believe that our own people are deserving of all protection.

ORATION IN MEDICINE

THE CONSERVATION OF OUR GREATEST NATURAL RESOURCE.*

By T. Atchison Frazer, Marion.

In education lies the hope of the country. We hear much about the conservation of our natural resources. We have our national associations, congresses, state organizations and many local organizations to promote the conservation of these resources. They are all well enough. The public will become very enthusiastic over a new commercial project in the community. Citizens will contribute large sums of money to forward railroads, canals, or any other enterprise for the advancement of commerce. Yet it is strange that most people forget, or rather they do not realize that our greatest natural resource is healthy, happy men and women, rosy cheeked children, and the bright eyed, chubby handed baby, who greets us when we return from our day's work.

As long as the grunt of the pig, the low of the cow, the bleat of the lamb, the neigh of the horse, or the clink of the dollar, makes sweeter music to our ears than the songs of happy children, or the cooing of the rosy cheeked babies we will make but little progress along the lines of conserving our greatest natural resources.

Disease is the most appalling enemy of organic beings. Could it be conquered the greatest single step towards solving the awful problem of pain would have been taken. No effort should be spared in the difficult field of investigation. It should not be left to such chance efforts as may be made by specialists in intervals of practice or teaching; but disease should be made the object of organized attack. Every important variety of it should be studied by a body of specialists, equipped with the best apparatus available, and with every facility which ingenuity can devise. These investigations should be carried on day and night, until disease, mental, moral, and physical, is abolished or reduced to a minimum. Compared with this work, the building of railroads, the development of water powers, and the dredging of canals pale into insignificance. He, who can think otherwise, has had his sense of proportion hopelessly distorted by the strange ideals of the time; ideals so devoid of common sense as to constitute a variety of mania.

Our public schools should teach preventive medicine. The child is so susceptible to new ideas that his training along this line should begin early. There are many older people who are hopeless; their shells have become so hard that you can not penetrate them with a new idea. There are others who are so afraid they will break some time honored precedent that they will not listen to something new. There are others that are so afraid they will make a mistake, that they make nothing.

Verily the man or woman who makes no mistakes, makes nothing. Every medical college in the land should have a chair on preventive medicine. This is the most important subject that can be taught in college. It is astonishing how ignorant the average graduate in medicine is upon this all important subject.

Our medical schools have made wonderful advancements within the past few years, yet many of them are woefully inefficient in teaching facilities. The things that argue most for medical education in this country is the reduction in the number of medical schools. There were in 1904 147 medical colleges; in 1913 there is less than one hundred, and mergers are so common that there may be less by this time. Blessed will be the day when we can boast that we have only forty or fifty medical schools, and that each of them are equipped with all the modern facilities for teaching.

The physician should have high ideals; he should have an ambition to do something for humanity. Many physicians have high ideals and strive to put them into practice, these are true physicians. Some of them had ideals but have forgotten them. These are ordinary doctors. Some few never had an ideal except a fee. These are the quacks, the shysters of medicine. These are the men who have brought disgrace to an honorable profession.

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*Delivered before the Kentucky State Medical Association, at Bowling Green, September 2, 1913.

In all times of great disaster the people naturally turn to the doctor for help. The recent floods in Ohio and Indiana illustrated the necessity of the great and beneficent men in the practice of medicine. Special trains carried doctors, nurses and medicines to the stricken cities. They were the first to reach the needy, and they stayed as long as conditions required them. Did you ever hear of a special train going to scenes of disaster carrying a cargo of Christian scientists, osteopaths, or the members of the American League of Medical Freedom? No, nor you never will. These fakirs and faddists are very well to talk about when people are not sick, or for fashionable invalids who enjoy poor health, and get a great deal of pleasure out of telling other folks their various symptoms, if the other fellow will only listen to them.

We show great sympathy for poor India when she is stricken with plague. We sympathize with Russia when she is in the throes of Cholera. We sympathize, with China in times of pestilence and disease. We are naturally a kind hearted, sympathetic people. We spend millions of dollars to send the gospel to foreign nations to enligten the heathen, which is all well enough. We should not forget that we need missionaries in our own land; in every community in our nation. We need them to teach our people the common laws of nature, the common laws of hygiene, the laws of preventive medicine, the laws of rational sanitation, and the laws of decency. We need to teach the mothers how to save their babies from an untimely grave by proper clothing, proper feeding, correct housing, and by keeping them isolated from contagious and infectious diseases.

The women are the home-makers of this country; they are the ones who do things that are worth while, and when they are properly educated along the lines of preventive medicine, then it is that you will see the death rate from preventable diseases diminish. No home can be happy as long as disease is an inhabitant of that home. It is not the luxuries of wealth that make a happy home, it is not always a mansion that is a home, it may be the vine-clad cottage or the cabin. The man has indeed a happy home if it is the dwelling place of health, and he thinks that his own red-headed wife and freckled faced children are as good, as pretty, and as sweet as they should be.

VITAL STATISTICS.

Kentucky has a model statistics law, a law that is recognized by all as being as nearly perfect as can be had under our present knowledge.

This law has been in effect since 1911, and it has worked admirably. While it has met some opposition; it has had easier sailing than most of us expected. The doctors are the ones that must see that this law is enforced. We are the ones who must make this law popular with the laity. When it is properly explained to the layman he at once grasps the situation and sees at once the necessity for the law.

Kentucky has for years kept a record of her thoroughbred horses, cattle, sheep, hogs, poultry, and even dogs, but, until recently, the people did not think that the boys and girls of this great Commonwealth were of enough importance to keep a record of their coming or going.

This law has enabled the State Board of Health to locate and stamp out epidemics. To save many of our citizens from disease and death. It is the very foundation of preventive medicine. We did not know how many lives were being wasted in this way until this law was put into effect. We did not know where the preventable diseases were gaining a foothold and snuffing out the lives of our people like a fire destroys dry stubble.

Vital Statistics has enabled the health authorities to put their fingers on the sore spots of Kentucky and epidemics have been located and checked in their ravages; in this way many lives have been saved and many of our citizens have been saved from untold suffering. The people of the State have been saved thousands of dollars. We must get the economic side of any subject before the public if we succeed in this great work of conservation. Therefore we make no apologies for referring to this phase of the subject.

The economic loss from preventable diseases is tremenduous. The figures as estimated by the actuaries of the great life insurance companies are so large that they stagger one's imagination. Their estimate of loss from this source is $1,500,000,000. This alone will more than pay the expense of the Federal government.

The American people are primarily a commercial people. They measure everything by dollars and cents and most of us can not look around a dollar to see anything else so we must show the average man that there is an economic consideration in the conservation of human life. We must in other words get the dollar before him so that he can see through it. Show that it will save him dollars and cents and then you will get action.

In the year 1912, there were in our beloved State 11,982 deaths from preventable diseases.

We will now consider one item of cost for this remarkable waste of life. Say the caskets in which these people were buried cost the nominal sum of $50.00 each, which is a low estimate, then it cost the people of Kentucky $599,100 to bury their dead who died of preventable diseases. Then think of the other expenses such as doctor's bills, nursing, medicines, loss of time, and many other items that could be added to these figures. We must also consider what these lives were worth to the State, to their neighbors, and to thier families. We know that there were many thousands who had preventable diseases and survived. The expense of this class of patients runs into the millions and all this could have been prevented if we were living up to our opportunities.

In this conservation work we must have the cooperation of the people. We must have competent health officers, and these officers must be men of indomitable courage; men who are willing to sacrifice popularity; men who are willing to go in the forefront of the battle without considering their own interests.

I love a game fighter; a man who has the courage to fight if he has to fight alone. Some of us expect to find only flowers in our pathway, and it is easy to make progress as long as we meet no opposition; but we must remember that we can make but little progress along any line without meeting opposition. There must be some thorns where roses grow and they will occasionally prick our flesh if we gather the roses.

Every county and city should have a health officer who devotes his entire time to this work. He should be paid a salary that will justify him in giving his best efforts to this work. Each county and city should have a well equipped laboratory where proper examinations can be made. These laboratories can be utilized by the high schools for teaching purposes. Especially are these laboratories desirable in the rural communities and they would be of much service in the cause of education. With a full time health officer paid a salary that would command men of ability who would enter upon this work with determination and enthusiasm we could show the tax payers a saving that would soon merit the support of all good citizens. This would also give the health officer the support of the entire medical profession which is so necessary in this great conservation work. It would remove the last vestige of excuse for the men in medicine to withhold their influence from the work of the health authorities. We must have the support of the entire profession if we are to accomplish the things we have set out to do.

All communicable diseases should be reported to the local health officer. A record should be kept and if persons suffering from any infectious or contagious disease remove to another community a note should be made of such removal and in this way we may keep an eye on them and prevent them from infecting other communities.

EUGENICS.

We should have a law requiring a health certificate from the proper authority before a license is issued for marriage. All children have a right to be born normal and healthy. This birthright can not be guaranteed to them as long as the syphilitic is permitted unrestrained to lead our fair daughters to the marriage altar. We will have gonorrheal ophthalmia as long as the man with uncured gonorrhea is permitted to marry. We will have insanity as long as diseased and degenerate people are permitted to marry. Just here I wish to say that one of the things that is filling our asylums, houses of reform, and penitentiaries to overflowing is these poor unfortunates who either inherit or acquire syphilis. We will consider for a moment the responsibility of marriage. Think of a dignified minister of the gospel performing a ceremony that binds a pure and virtuous woman to a man who is suffering of syphilis or of gonorrhea. The minister with all his dignity and piety stands before the contracting parties and says the ceremony that makes them husband and wife. He pronounces with great solemnity "that whom God has joined together let no man put asunder;" then he offers a fervent prayer that God's richest blessings may go with them through life. Now many of these same creatures who are united in the holy bonds of matrimony are sufferers of syphilis and gonorrhea. Does any rational man or woman believe for a moment that God has anything to do with joining these human wolves to pure women. It is a farce comedy and an insult to our God.

I believe with Ott that every state in this country of ours should enact a law that requires the contracting parties to announce their intended marriage three months before it is to take place, and then each of them should undergo a number of examinations before a physician; not by the family physician but a competent health officer who has no reason to be prejudiced either for or against the contracting parties. This would eliminate the unfit from this sacred function and give to every child its inalienable right to be born normal and healthy and have a fair start in life.

All criminals, insane persons, and congenital idiots should be sterilized and in this way stop the propagation of their kind. Our greatest efforts should be not to raise the finest horses, cattle, hogs, sheep, dogs, and poultry in the world. These are all well enough in their way but we have been devoting too much time to these things at the expense of the human family. Let us strive to make men and women the principle product of this country. Let us strive to bring up a race of sturdy, healthy, intellectual men. Physically, mentally, and morally. Let us strive to make our women more beautiful than ever before. Let us strive to make them normal, morally, mentally, and physically. The mother naturally transmits more characacter, more intelligence, more refinement, and more of all the qualities that go to make life worth living than does the father. Then let us have a generation of women who are fit to be mothers of great men and great women. All the world's great men and women had great mothers, and I believe that it is almost impossible for a man to be great unless he has a great mother. Of course there are exceptions to this rule but the exceptions are so few that we are safe in saying that no country can be great without great mothers. No civilization can be on a safe or secure basis unless the mothers of the land are intelligent, modest, and virtuous.

INSPECTION OF SCHOOL CHILDREN.

One of the effective ways in which to conserve our greatest natural resources is the scientific inspection of school children. Diseases can be detected and treatment instituted while they are in their insipiency, while they are most susceptible to treatment. Most diseases found in school children are either contagious or infectious; therefore the earlier they are recognized, the greater the protection we give to other children. An epidemic of diphtheria, scarlet fever, measles, mumps, or whooping cough can often be averted by school inspection. Also the various contagious diseases of the eye which are so baneful in their effect, can be isolated and treated. The many physical defects and deformities which are usually the cause of the dull boy or girl can in this way be detected and corrected.

We should advocate the proper legislation along this line, and exert our influence on our legislators to secure this end. We should in season, and out of season, work for these reforms. We should seek the influence of the ministers of the gospel, the lawyers, the teachers, the women's clubs, and all altruistic organizations to help us in this work for humanity. We should let every politician understand that if he gets our vote and influence he must stand for the things we know are best for the public health. We should throw our political prejudices to the winds when it comes to voting for law makers.

FOOD AND DRUGS.

The commercial spirit that has invaded this country for the past several years has caused to be put on our market all kinds of food and drugs. Men who had only the making of money in view, have manufactured and sold foods and drugs that have poisoned thousands of people. This has all been done in the name of business, and when an effort is made to better these conditions we hear the cry "it will hurt business."

What difference does it make if it does hurt business, if we can save the lives of men, women, and little helpless children? Has any one the right to poison people simply from the fact that they make money out of this poisoning? Rutledge Rutherford, who is an authority on this subject, estimates that 600,000 people are poisoned each year in this country by eating food that is adulterated, food that is preserved by chemicals. He also estimates that 30,000 of these people die from such poisoning.

These figures are appalling, yet many of us wink at them, and say it is none of our business. I believe that every person has a right to know what he eats. If an adult wants deliberately to eat the things that are poison, I have no objection, but it is only fair that he know what he eats. Little children eat these things without knowing their baneful influence on them; therefore no one has the right to feed to these little innocents food that is not fit for nourishment. Foods that can not be preserved without chemicals are not fit to furnish fuel for our dynamos, and therefore should not be permitted on our markets. It is the stale and unwholesome food that requires the use of chemicals to preserve.

Drugs that have no place in our national pharmacopoeia and formulary should have no place in our markets. Hundreds of men in this country are growing rich by selling supurious drugs and "cure-alls" that have no merit at all, but that is not the worst of it; many of these so-called medicines are very harmful, and many lives are snuffed out by them each year. Millions of dollars are spent by the Americans each year for medicines that are not only worthless but actually dangerous.

It has been said that in this great country of ours a "sucker is born every minute," that is no doubt so and I think they are often twins. Many doctors are in the habit of prescribing proporietaries and specialties. Medicines advertised to the profession only; medicines whose names are manufactured along with the medicines. Our pharmaceutical manufacturers are trying to compete with all the proprietary medicines put on the market, i.e. advertised to the profession. I had just as leave prescribe the original proprietary as the pharmaceutical specialty, and had just as leave prescribe Mrs. Pinkham's vegetable compound as either.

The State and National Food and Drug Law has done much to remedy this evil, but the courts have construed certain sections of these laws as to render them ineffective in many instances. These judicial decisions have made them mean in many cases the very things that their authors did not intend for them to mean.

We should strive to strengthen these laws and make them more effective, make them the protection they were intended to be, we should make them so strong that no guilty man can escape.

SAVE THE BABIES.

While preventive medicine is the battle cry of the age, and the conservation of human life is the most important subject before the civilized world; let us remember that the infant mortality is exceedingly high. In the past there has been a feeling among the people that it is "only a baby" and that the "little thing is better off." We should remember that the babies of to-day are the men and women of to-morrow. No one can tell what the loss of an infant means to its parents.

No one can tell what the loss of an infant today means to the world to-morrow. There is no greater field for rational conservation of human life than the prevention of the diseases of infancy and childhood. More than fifty per cent. of infant mortality is due to preventable diseases. The mother must be taught how to prepare its food, if artificially fed; how to clothe and bathe it during the summer months as well as winter. She must be taught that the baby must have plenty of air if it is to thrive. Just here I wish to say that it is astonishing to see how ignorant the average mother is upon this vital subject. The baby should have plenty of fresh air in winter as well as in summer. Mothers should be taught that most of the ills of winter are due to the little ones breathing impure air, that the child's resisting powers are lowered, and that it falls an easy prey to the diseases incident to cold weather. Food is of great importance. The infant should have plenty of good nourishing food, it should be clean and properly prepared. Milk is the most important article of diet for the child under two years of age. The greatest care should be exercised in procuring good clean milk, and then the mother should be taught how to keep it pure and clean.

Many mothers let their babies "stuff" their little stomachs with half ripe fruits, half cooked vegetables, and they eat with flies swarming over their food ,and then they wonder why the baby is sick. The wonder is why the baby is not dead. All the diarrheas in infants and children are preventable. The fly carries the poison and deposits it on the food, and the child eats it, and we all know the results.

The all important question in this line of conservation is the education of the parents. The doctor and the nurse are the ones that must furnish this important information to the mothers of the land and the only way to accomplish anything worth while is to keep everlastingly at it.

Exercise is important for the infant. Put him in a place that is comfortable, not too cold, not too hot; strip him off and let him kick and "coo" all he pleases. Action is life; inaction is death. Give the baby plenty of fresh air. Fresh air and sunshine promote deep breathing. Expand the lungs with pure air, this will supply the blood with oxygen, develop the muscles, tone the heart, and will paint rose tints on the cheeks, and make the little life one stream for bubbling joy and happiness.

TUBERCULOSIS.

Tuberculosis is a subject that should have profound consideration. In the registration area of the United States in 1911 there were 94,205 deaths from this disease, making a death rate of 158.9 to the 100,000 population. In Kentucky there were 4,773 deaths from this disease making a death rate of 205.5 to the 100,000 population. These figures show that in the registration area one death in nine is due to tuberculosis, while in Kentucky one death in seven is due to this disease. In other words our own State has not made the progress in the fight against "the great white plague" that is being made by the people of other states.

According to these figures, which are taken from the Vital Statistics reports and are as nearly correct as can be obtained in Kentucky, each family of seven is due to lose one member from tuberculosis. When a family escapes this disease it means that some other family must lose two members to make the balance sheet tally.

The fight against this disease must be made for the control of the tuberculous patient. As long as the poor tubercular victims are allowed to go at will in public places and expectorate any and everywhere just that long will this disease continue to spread.

Tuberculosis should be a reportable disease and every effort should be made to teach them how to care for themselves in a way that will not be a menace to the public health.

I think that one of the best ways to educate the tubercular subject is by means of the visiting nurse. Very few indeed are vicious enough to want to spread this or any other disease. It is through ignorance that people continue to infect others with tuberculosis. The doctors have been derelicit in their duty. They do not make the diagnosis as early as they should, and many of them do not inform the patient and family of the nature of the disease and the danger to others as they should when a diagnosis is made.

People should be taught that tuberculosis is primarily an infectious disease and that the seed must be sown just as the farmer sows his wheat or corn before we can have a crop of tuberculosis. They should be taught that the person who has this disease is the sower of the seed that will surely yield another crop.

The responsibility for the spread of this disease must be put squarely up to the people in a way that no one can shun his part of the responsibility for the great tragedy of life and death that is being enacted in so many of our homes. Let some great disaster befall a few hundred people like that great tragedy of the sea when the Titanic was destroyed with her cargo of human freight, and the people over the entire civilized world will sit up and take notice.

The Sunday following the disaster of the Titanic every minister in the civilized world refered in some way to that great loss of human life. The Congress of the United States immediately set itself to the task of investigating the disaster; the authorities of all the European countries started similar investigations. A cry and hue went up from every newspaper in the land for investigation. The people wanted the responsibility for this great disaster placed where it belonged. This was as it should have been. The people have a right to know who is responsible for such disasters.

In that tragedy there were about sixteen hundred lives lost, but they were snuffed out in so short a time that it produced a profound impression on the entire world. Now let us paint another picture. The registration area of the United States comprises about sixty per cent. of our population. It is fair to estimate that the same per cent. of deaths from tuberculosis will hold good in the remainder of our country, then if this estimate be correct there were in the United States last year 131,887 deaths from tuberculosis.

If the ministers of this country could realize that tragedies were being enacted at their very doors every day that are more terrible in their nature than that of the Titanic they would certainly take for their texts occasionally the subject of tuberculosis. Our representatives in Congress should be told of these great tragedies. Surely if they realize the truth of such figures they would give due consideration to the Owen Bill. If our representatives in the legislature could be made to realize the great waste of life from tuberculosis as well as other preventable diseases they surely would enact the necessary laws for their eradication. But it seems that our representatives in Congress as well as in the state legislatures have become so thoroughly infected with political septicemia, that the infection of corruption has been so thoroughly disseminated, and that softening of the spinal cord is so general among them, that there is little hope for the necessary legislation along this line.

There is no class of people that spend so much money for fake cures as do the consumptives. Within the last five years more than five hundred fraudulent "cures" for consumption have been tried upon thousands of poor victims in this country. The tubercular subject is naturally the most cheerful and optimistic of all chronic invalids. They are looking forward with confidence to some remedy that will effect a cure, they hope against hope, and spend their means for "fake cures" when they should be spending them for good food, should be living in the fresh air, and sunshine.

New remedies are being foisted daily upon an unthinking public and thousands of people are ready to try them. The newspapers are ready to give them publicity, and many people are ready to accuse the medical profession of a selfish motive when they warm them against these frauds.

Friedmans are born every day, though all of them are not so successful as F. F. Friedman was in securing through his press agent such great notoriety. The F. F. means fake, fraudulent. When Friedman failed to rope in his own people he hied himself away to the "land of the free and the home of the brave." When speaking of medical fraud we might say the "land of the sucker and the home of the knave."

TYPHOID FEVER.

Typhoid fever is a filth-born disease, and as long as it exsits to any considerable extent it is a blot on our boasted civilization. This is one of the most easily prevented of all contagious or infectious diseases. It was proven conclusively in 1910 when our soldiers were then in camp along the borders of Texas. About 18,000 soldiers were then in camp during the hottest months of the summer, every precaution was taken that modern science could devise. The result was that only one soldier had the disease. Only one case occurred and that was a teamster who had not been vaccinated. Compare this record with the record made during the Spanish-American war. More men died from typhoid fever during that short conflict than were killed and wounded while in line of battle.

Typhoid fever is a disease that attacks men and women in the prime of life, at a time when they are worth most to society, worth most to the country, and worth most to their families. In 1911 in the registration area of the United States there were 12,451 deaths from typhoid fever, showing a slight decrease over the preceding year. This was a death rate of 21 per 100,000 population.

This is the lowest death rate from typhoid since the institution of the annual report, and shows that we are making some progress along the line of prevention. Yet we are far above the progressive European countries. England, Wales, The Netherlands, and Prussia only have a death rate of five per 100,000 population which is less than one fourth of our death rate. These countries have been making strenuous efforts for many years to stop the ravages of this monster and how well they are succeeding can be seen by these figures.

Typhoid fever has vanished from the Panama zone under the magic touch of Col. Gorgas like a frost beneath the noon-day sun. Our success in eradicating the preventable diseases from Panama is a fair example of what we can do everywhere. All we need is the authority and the money. We have the men who are competent and ready to do this work at any time.

Col. J. R. Kean of the Unted States Army Medical Corps, who has made a special study of the medical and surgical statistics of all armies, states that typhoid fever in the United States Army has become so nearly extinct that not a single case has been reported during the present calendar year. Here again the education of the laity is the all important means for the control of a preventable disease.

When the whole people understand that they cannot have typhoid fever without actually swallowing some of the excrement from the bowels or kidneys of a typhoid patient; then it is that we will have the co-operation of the people that is so necessary in stamping out the contagious and infectious diseases. This phase of the subject is not very pleasant to contemplate but we had better talk about it than to have it and we are certain to continue to have this luxury unless we agitate the question. Typhoid is contracted either through water, milk, or the germs are carried by the fly and deposited on the food we eat. There are of course other possible means of infection, but the danger from other sources are so slight that they are insignificant when compared to the three main sources.

Typhoid Carriers: We do not know the full significance of the typhoid carrier, yet, from investigations that have been made, there is no doubt that epidemics of typhoid fever originate from this source. We have authentic information that a number of epidemics have been traced to the carrier.

The medical profession must take their part of the responsibility for the dissemination of typhoid. If every doctor in the land would give the proper instruction to the nurses in charge of these cases; give the necessary orders for disinfecting the excrement from the patients, and see that the instructions were carried out to the letter it would be easy to control this disease. The doctor should not wait for a well developed case of typhoid before he instructs the nurse and family in regard to the danger for other members of the family and the community at large. If there is a suspicion of this disease he should not hesitate to tell the family of the danger to others. He should explain the mode of its communication and do everything in his power to protect others.

It is criminal for a physician to neglect his duty to the well as well as it is to the sick.

An example worthy of our notice is seen in the sanitation of the flood stricken Ohio Valley following our recent deluge. Ten or twenty years ago we would have expected an epidemic of typhoid fever along the entire valley. We would have had it too, but for the wise and judicious sanitary work that was done by both state and national officials. The co-operation of the Public Health and Marine Hospital Service with City and State Boards of Health saved hundreds of lives and thousands of people from untold suffering. This work saved the people at least a million dollars in doctor's bills, nursing, medicine, and loss of time. Yet it cost comparatively little.

If we had a National Department of Health with a physician at its head this co-operation would be much more practicable. Many more lives could be saved, much more suffering could be prevented, and many thousands of dollars could be saved. Our tremendous death rate from preventable diseases could be cut in half within five years. We would all be happier, healthier, and the future generations would rise up and call us blessed.

BLINDNESS.

It is estimated, and I think conservatively so, that about ninety per cent. of the blindness is due to preventable diseases.

This is a terrible charge to bring abainst the American people yet we have the evidence to sustain the charge. About seventy-five per cent. of the blind become wards of charity, either on the state, or county, or they depend on the cold charity of people who are under no legal obligations to support them.

Gonorrhea is responsible for a large per cent of this blindness, and when the gonococci attacks the conjunctiva its onset is so violent that there is but little time for treatment. This cause of blindness can best be treated by preventing the access of the poison to the conjunctiva. Much of this can be prevented by instilling into the eye of the new born a few drops of a solution of nitrate of silver. Adults who are afflicted with gonorrhea should be instructed as to the danger to their eyes and every precaution should be taken to prevent infection.

Trachoma is the disease that we in Kentucky should have the most concern about now. To Dr. J. A. Stucky of Lexington we owe a debt that money will not pay. It was he who went into the mountains of Kentucky at his own expense and investigated the cause of so much blindness there. It was Dr. Stucky who called the attention of the medical profession to the prevalence of trachoma in our own mountain counties. This is a disease that usually gets a firm hold on the eye before it is recognized. While it is not so contagious as some diseases it is nevertheless contagious, and no one ever contracts this disease except from a previous case.

This brings us face to face with quite a serious condition. From investigations made in 1912 by Surgeon John McMullen and Dr. Stucky of Lexington it is shown that twelve and one-half per cent. of the persons examined were affected with this treacherous infection. This disease is not confined alone to the Kentucky mountains. For the past two years I have made a careful study of this disease in one of our western counties (that of Crittenden), and I am sure that no less than six per cent. of the people are infected with trachoma, and I have every reason to believe that this per cent. will hold good over the entire State, and I would suggest that the State Board of Health cause to be made as soon as possible a sanitary survey of the State to ascertain the real conditions now existing.

If these people are left to fate, and this treacherous disease is left to its course there can be but one ultimate result. That is, the ones infected will eventually lose their sight. Others will be infected one after another until we will have more blind people in Kentucky than the State can maintain. Next to tuberculosis I believe there is more danger to our people from trachoma than from any other of the contagious or infectious diseases. What does it matter to a person to be saved from tuberculosis, and then have the windows of the soul closed and God's sunlight shut out forever, left to grope their way in darkness and live from the cold hand of charity.

INTESTINAL PARASITES.

Recently the intestinal parasites have become a problem in this great conservation work. A few years ago Charles Wardel Stiles discovered that the co-called lazy class of people in our beloved Southland were not lazy; but were sick people.

He discovered that many thousands of people in the South were infected with hookworm disease. That this little parasite was sapping the vitality and rendering thousands of young men and women invalids. That thousands of our boys and girls were undeveloped on account of this infection. That their earning capacity was nil and that they were charges on the state in which they lived. This discovery attracted the careful attention of all our most progressive doctors and they set out to do something to relieve these poor sufferers.

In this as well as in all other endeavors to conserve our greatest natural resources we were confronted with one great obstacle, the lack of funds. John D. Rockefeller loosed his purse strings and poured out a golden stream over our Southland which is being judiciously used to snatch thousands from a premature grave and restore them to health and happiness and make them useful citizens.

In Kentucky a great work is being done to locate and treat hookworm disease, and many of our citizens are ready to "rise up and call us blessed." To Dr. South, our efficient State Bacteriologist, the people of Kentucky owe a debt of gratitude they can never pay, and I would not forget Dr. J. S. Lock who has done so much for the people of our mountains.

Dr. South went into the mountains of Kentucky armed with the microscope and other instruments of precision to see if she could find the cause of so much sickness, the cause of the poorly developed boys and girls among these people who can boast of the purest Anglo-Saxon blood in America. Her labors soon bore fruit and it was discovered that a large per cent. of school children as well as adults were infected with hookworm. She enlisted a number of our sturdy mountain doctors in this work of conservation, and as a result thousands of our people have been saved from a premature grave and restored to health and happiness, and usefulness. Just here I would like to say in justice to the mountain doctors that they are big-hearted, intelligent, educated, refined, and the personification of energy.

There is yet much work to be done in the extermination of the hookworm, in fact, we have only begun. Every doctor in our Southland has his share of this work and his share of the responsibility. In Kentucky where we can get the examinations made for the asking we should avail ourselves of the opportunity of helping them that look to us for help.

There are other parasites that infect the intestines with dire results and in our search for the hookworm we often find them, and are able to administer proper treatment for their removal.

There are various other diseases that are preventable and should be prevented. In a paper like this we could only speak of a few of the most important. There are still a number of diseases that remain almost untouched by the hand of science; their mysteries are yet to be solved. We should have that abiding faith in the abilities of our great profession to believe that in the near future all diseases can be handled like the checkers on the board. That they will be made to move by the magic touch of science. That the span of life will be lengthened year by year. That the plans of education will be so perfected that all men will occupy the place in life that the Great Creator intended that he should occupy.

We should all seek a higher plane in life; we should be inspired with an ambition for higher thoughts, nobler actions, and purer actions. We should have a place in life to which we can go alone, and there contemplate the glories of creation and adore our Great Creator.

Now, in conclusion, let me say that it is up to the great medical profession of Kentucky to go forth as missionaries, and tell our people how they can save themselves from untold suffering, untold deaths, from untold expense and protect themselves from the ravages of preventable diseases. We can not all be leaders. All armies must have their generals, their lieutenants, their colonels, their captains, and their men behind the guns. Let us unfurl our banners and fling them to the breeze with the solemn vow that they will never be furled again. Let us emblazon on them this motto "We will fight in one solid phalanx until preventable diseases are banished from our beloved state; until the people of Kentucky are the healthiest and happiest people on earth."

Let's answer the bugle call to duty and be found on the firing line as long as there is an enemy on the great battle field of life. Let us live like heroes; let us die like heroes, and when we come to depart this life may we wrap the drapery of our couch about us and die like one who lies down to pleasant dreams.

When the "taps" are sounded over our lifeless bodies then the people will gather around the little mound, bathe it with the tear drops of sympathy and love, and we will be called blessed by the generation yet unborn.

ORATION IN SURGERY

THE ACHIEVEMENTS OF SURGERY.*

By W. E. SENOUR, Bellevue.

Speech cannot contain my gratitude for those who have honored me with this position. That I may prove worthy of your confidence, and measure up to those high ideals set by my distinguished predecessors is my fondest hope.

The very name of this Association impresses me with a deep sense of responsibility. I esteem it a rare privilege, to represent an organization that has done so much for the advancement of the science and art of medicine and surgery that has developed the JOURNAL to an importance unsurpassed by any other state, that has always been active in securing the enactment of just laws for the protection of the people and its members.

Ever since nature rocked the cradle of the infant world man has sought to improve his condition and lengthen his life.

Every age from the time of Hippocrates down to this very moment has furnished its quota of the most intricate surgical problems.

Every age has likewise witnessed the birth of those scientific geniuses, who, by their ceaseless industry, fearless investigation and unfettered thought have rendered their solution possible.

The facts thus revealed have been utilized in moulding surgical opinion peculiar to those ages.

As we review briefly the surgical achievements of antiquity, we find them written in the lives of a few men such as Hippocrates, Galen, Vesalius, and Pare, Hippocrates was not only the father of medicine, but a distinguished surgeon. He was not only pioneer of his century, but a teacher of great ability. Galen, like many other intellectual giants, was nursed at the breast of poverty. He received much inspiration from the teaching of Hypocrates, having imitated that great master by practicing and teaching the essential phenomena of life. He has been referred to as our first physiologist as well as the most modern of all the men of medicine.

His most famous discovery was that of the true functions of the arteries. His teaching of laboratory methods and his work in animal experimentation attracted world-wide attention. For years he impressed himself upon human thought and was regarded as the second great medical prophet of antiquity.

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*Delivered before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

Vesalius was distinguished as the first modern scientist, while Pare was not only the greatest clinician of his age, but the most eminent surgical authority of all Europe. These leaders of surgical thought of their respective ages sought scientific truth and not the applause of their contemporaries. Their lives served as a torch in the darkness and an inspiration and prophecy to those who lived after them.

For fifteen centuries following the death of Galen the progress in surgery was extremely slow. It was during these years that medicine and surgery was surrounded by secrecy and mysticism.

Those days of empiricism and baseless speculation, that period of ignorance and superstition have long since passed before the march of scientific discovery. Every new fact has pushed aside the clouds of superstition. As time sweeps on, the old passes away and the new in its turn becomes old.

The discovery and establishment upon a firm foundation of the germ theory of disease by Pasteur and its application by Lister is one of surgery's great achievements.

The story of the studies in fermentation and spontaneous generation is a classic of scientific literature.

To my mind the greatest and most permanent achievement of the last century was the wide development and establishment of scientific methods of study. Out of these methods have come the marvels of which we boast.

More progress was made during the Nineteenth Century in the science and art of surgery than during the 2000 years that preceded.

When we compare the surgery of to-day with that existing prior to the days of Lister, we are amazed at the brilliant accomplishments of present day surgery.

To-day the most vital regions of the body are accessible to the surgeon's knife. Decompression in operation for epilepsy is giving more satisfactory results. Decompression of the spinal cord by laminectomy in nonmalignant diseases is a great advance in surgery of this tract.

According to the observations of Wm. Mayo, jegunostomy is advancing in favor and application as well as good results.

With the introduction of the negative pressure Cabinet and the passing of the fear of pneumothorax, thoracic surgery has made rapid strides.

A successful case of resection of the oesophagus, the most inaccessible of all the organs of the body, has been recently reported by Frank Torek of New York City.

The complete removal of the colon in gastro-intestinal stasis advocated and practiced by Lane of London, is not regarded with much favor by American surgeons.

So safe were operations regarded a few years ago, as the result of Lister's discovery, that a mania for cutting developed. Doubtless, many of you recall the reckless sacrifice of ovaries and tubes that took place, leaving in its wake untold number of wrecks fit only for the nervous scrap heap.

In those days every badly lacerated hand or foot was amputated.

Fortunately, this age is of another temper. It is an age of constructive and not destructive surgery. It is an age of conservation and not of radicalism.

The message that comes from all the great clinics is for earlier diagnosis, more thorough pre-operative and post-operative treatment.

To-day we are content to allow the *vis medicatrix naturae* to do her work first, and many times marvel at the results of her effort.

The modern era has witnessed the development of some of the greatest surgeons of history, many of whom are still living, such as Murphy, Crile, Mayo, Bloodgood, Carrell and others. These are some of the men, who are writing surgical history at the present moment.

Murphy is recognized as the world's greatest surgical teacher. Crile—the greatest and most skillful surgeon the world has yet produced. His most recent contribution, viz., anoci-association marks the beginning of a new epoch in surgical methods and surgical technic.

It will likewise prove to be the means of bringing into greater prominence the importance of the psychic element in its relation to surgical cases and surgical results.

The fame of the Mayos and their clinic is international. Everything new in surgery that has been demonstrated as valuable may be observed there.

Bloodgood is regarded by the surgical profession, both at home and abroad, as the greatest pathologists of his age, both microscopic and macroscopic.

Carrell as a prosector has no equal and as a research worker few superiors.

While the modern era has witnessed the development of many eminent surgeons, it has likewise witnessed the birth of many operators not entitled to the rank of surgeons. This has given rise to much meddlesome surgery, untold mental and physical suffering, much imperfect work, and untold morbidity.

During all these years of unparalleled progress marked by the most marvelous changes in surgical methods and surgical technic, the master minds have been seeking a clearer understanding of life that they might adopt the most approved methods to preserve it.

Life, as defined by the leading scientists of to-day, is the adjustment of internal to external relations.

The more perfect the correspondence between the two, the greater the length of life. In other words, the more perfectly a human being can adjust itself to its environment the greater the longevity.

Admitting the above definition to be correct, it becomes the duty of every surgeon to so manage every surgical case from the time it presents itself until discharged so as to be in harmony with the adjustment of internal to external changes.

In the process of evolution, as the intellectual horizon has widened, as man became better acquainted with the laws and rules of nature, as his knowledge of the phenomena of life increased through a more careful study of the development of the human body from its beginning in embryo to complete development; as he learned by observation and actual experience in the laboratories repeating the fundamental experiments of biology, that as oxygen is taken into the body there is an unceasing change of matter which is accompanied by the production of nerve force, which is stored up in the organism. If from any cause these stores of energy are discharged, exhaustion, shock and death are the result.

To Crile is due the credit for having pointed out that these stores of energy are discharged first by physical injury to the sensitive parts during a surgical operation; secondly, by emotional excitement, such as fear or dread of the results, or by physical exertion, and in each case morphological changes take place in the brain cells.

Accepting the findings of Crile as correct and granting that the highest function of the present day surgeon is to keep, hold, and preserve life and health, the question that presents itself to every surgeon, is what is necessary in the management of every surgical case from the time it applies until discharged in order to secure the most perfect result with a minimum degree of physical and psychic shock.

Since psychic shock is three times as great as physical, and begins the moment operation is suggested, its importance demands a careful study of the patient's mental attitude. The fear of going to the hospital to the operation is best relieved by sending the patient several days before the time of operation.

The fear of the anesthetic should be relieved by reassurance and reason. A badly frightened patient *should never* be taken to an operating room. While in the hospital the number of hours of sleep must be increased and the waking hours filled with contentment.

All hospital attendants must be cautioned against magnifying the importance of the disease or the danger of its correction.

Every detail necessary to give the patient complete mental and physical rest should be carried out. In endeavoring to forecast the final results of an operation, the mental and nervous condition *must be* carefully weighed. Alcoholics should be total abstainers before surgical intervention is attempted.

In the light of modern methods it is impossible for a surgeon to qualify himself in all the branches needed to make a scientific diagnosis. He should therefore call to his aid a good clinician, preferably the family physician, if he is qualified to do the work.

All the instruments of precision, such as the X-ray, the sphygmomanometer, all the clinical and laboratory examinations should be made, a blood count is exceedingly important, as it demonstrates the presence of anemia, which is a most important factor in lowering vital resistance. If present, it should be corrected before operation is attempted.

There must be team work in which all are stars to give the operative patient the best chance to recover.

As a rule, patients do not object to prolonged examinations, but on the contrary, are favorably impressed by them. It inspires them with greater confidence in the surgeon.

In the past too much attention has been given to the operation and too little to the study of the condition of the patient.

The selection of an anesthetic is a matter of prime importance in every surgical procedure.

According to laboratory tests, it has been demonstrated that shock under ether is three times as great as under nitrous oxide. It has likewise been shown that both chloroform and ether injure the nerve cells and leave toxic substances in the body, produce tissue waste and exhaustion of nerve cells. While nitrous oxide does not. Being less injurious than chloroform or ether it should be the anesthetic of choice.

Since none of the inhalation anesthetics prevent injurious impulses from reaching the brain, resulting in the discharge of nervous energy, the production of morphological changes in the brain cells, it becomes necessary to infiltrate the tissue at the site of operation with some local anesthetic in order to isolate the brain from the field of operation.

Novocain being the least toxic is looked upon with most favor by many surgeons.

For the purpose of estimating the factors of safety during a surgical operation and determining the exact condition of the patient at all times the writer has found the blood pressure apparatus the most reliable.

For the last year and a half have had blood pressure readings taken before, during and after surgical operations. As a result of these observations, I am thoroughly convinced that these records are the most important means of estimating the exact condition of the patient at all times. The sphygmomanometer will warn the surgeon long before the pulse or respiration.

If at any time during an operation, the blood pressure reaches one hundred, saline solutions should be administered. If at the termination of an operation, blood-pressure is low, the patient should remain in the operating room until all signs of collapse have disappeared

Time is an important element in every operation, as it has been frequently demonstrated that the degree of shock is greatly augmented after one hour. The family physician should co-operate with the surgeon and do his part in the pre-operative diagnosis, means and methods of treatment. He should be present at the operation to add to the confidence of the patient. He should see the patient after the operation to stimulate hope. The post-operative treatment should be directed by the surgeon until all danger of complications has passed and the wound healed. After leaving hospital the treatment should be carried out by the family physician, who shall see that the various functons of the body are regulated, must see that the lost flesh and strength are restored, that the nervous and mental equilibrium are established.

The surgeon of to-day is awake to the fact that the pathological condition that calls for operative interference gives rise in the majority of instances to fear and misgivings resulting in a state of chronic anxiety, which must be relieved by suggestive therapeutics.

There is much in surgery besides recovery from an operation. The patient should be well, not only physically but mentally, not only anatomically but sympotmatically.

The question is no longer one of mortality, but of morbidity.

No surgeon of the present time can afford to continue surgical work who does not keep a record of his cases and check up his ultimate results. He must know from year to year what patients have been permanently relieved and those that have not. He must investigate those that have not in order to improve his results. He must familiarize with the manipulations of an operation that produce shock by experimenting on animals that he may avoid them, when operating upon a patient.

If the surgeon of to-morrow expects to get his surgical cases earlier, he must study his own records and present the results of that investigation to his colleagues. While the surgeon has been crying for an opportunity to operate earlier, he has not furnished the evidence to support his demands. He has not given the clinicians the facts, which are obtainable only from his surgical records. Too many cases, through indifference and lack of care in making examinations are allowed to reach an advanced stage before expert services are sought, resulting in much unnecessary surgery.

A careful review of all the great surgical clinics reveals the fact that this does not apply to malignant diseases only, but to all classes of disease. Procrastination on the part of patient, internist, and surgeon destroys more lives annually than exploratory incisions for diagnostic purposes. The surgeon of the hour does not wait for the appearance of cancer of the stomach, he excises the ulcer. He does not wait for the development of the cancer of gall bladder, but removes the stones instead. He does not operate upon carcinoma of the cervix, he repairs the laceration at the earliest possible moment.

The crying surgical need in every community is for physicians who are capable of making diagnoses earlier, in order that surgical diseases, both acute and chronic, may be brought for surgical relief at a time when the operative mortality is least and the probability of a permanent cure best.

The medical and surgical professions must educate the people to be willing to undergo treatment or operation at a period in their disease when a clinical diagnosis is impossible or still doubtful.

Convince them that in the majority of instances when the clinical symptoms are at hand the golden opportunity is lost. Teach them that the operation is not everything, but that the after-treatment is of equal importance.

Surgeons of the future must not rely upon text books for their information, as they are usually from two to three years behind the times. They must obtain their knowledge by reading carefully those journals in which appear articles contributed by the leaders of surgical thought at the present time. They must visit all the great clinics and hospitals at home and abroad, making careful observations of the work going on in all parts of the world. Should restricted finances prohibit travel, they may install a moving picture machine, start it going, and observe the surgeons of the world at work in their own operating rooms. They can watch the progress of making a Wasserman reaction in all its details from the rabbit to the patient. They can study the movements of the various microorganisms circulating in the blood, carefully note their increase in numbers as the disease advances.

One by one the surgical problems are being solved, thereby enabling the modern surgeons to obtain those high ideals they have ever sought. That burning desire to keep, hold and preserve life and health, is being realized.

The recklessness of the past made possible by the discovery of Lister, has been supplemented by more conservative and saner methods. The effects of surgical shock resulting in thousands of nervous wrecks annually and untold morbidity as revealed by unsatisfactory end results has been displaced by shockless operations made possible by the discovery of Crile. The significance of the psychic element in both medicine and surgery is being realized more and more.

Method and precision and greater thoroughness are coming to characterize surgery. Our horizon is ever broadening. Our views and our practice have undergone and are still undergoing radical changes.

Through the influence of observation and travel, visiting the great surgical clinics both at home and abroad, by closer association at the sessions of surgical congresses, the surgeons of the world are being brought closer together in closer relations, in more sympathetic emulation to avoid error and arrive at ultimate truth.

When the surgeon aided by the clinician and the instruments of precision arrives at a scientific diagnosis earlier, when he has created for every surgical case an environment that will insure the most perfect mental and physical rest, when he has selected that anesthetic or combination of anesthetics that produce the least shock, when he appreciates more fully the importance of the psychic element in the treatment and management of surgical cases, when he appreciates the influence of neurasthenia on the result of every operation and the influence of an operation on the production of neurasthenia, when he has learned through animal experimentation what manipulations produce shock and how to avoid them, when he learns to manipulate the tissue involved in the operative procedure with the greatest degree of gentleness and dispatch, when the family physicians are more thoroughly educated in the details of post-operative methods of treatment and given legitimate work with proper compensation, when the number of operators in the surgical profession grows less and the number of scientific surgeons increases, then, and not until then will there be harmony in the profession and the greatest good accomplished for the greatest number of patients; then, and not until then, will surgery witness her greatest achievement.

OFFICIAL ANNOUNCEMENTS

KENTUCKY STATE MEDICAL ASSOCIATION.

Minutes of the Sixty-Third Annual Meeting, Held at Bowling Green, September 2, 3, and 4, 1913.

SEPTEMBER 2—FIRST DAY—MORNING SESSION.

The Association met in the auditorium of the First Christian Church, Tuesday, September 2, 1913, and was called to order at 9:10 A. M. by the President, D. O. Hancock, of Henderson.

Dr. Cato, of the First Christian Church was introduced, and invoked divine blessing, as follows:

PRAYER BY DR. CATO.

Almighty God, our heavenly Father, we come unto Thee with grateful hearts for all Thy loving kindnesses and tender mercies. We thank Thee, dear Lord, for every power for good. We thank Thee for every instrumentality that is for the purpose of building up the bodies and minds and souls of men. We thank Thee, our Father, for this profession represented here this morning—these men who have in their hearts to cure the ills of the human body. We pray Thee to help them in their work. We call Thee the Great Physician, and Thou dost heal physical as well as spiritual ills. So we come, dear Lord, to render unto Thee the gratitude of our hearts for the blessings that have accrued to humanity through this medical profession. We thank Thee that life has been lengthened because of scientific research and discovery. We thank Thee, our Father, for the progress that has been made in medical lines and in scientific research in our own State. We thank Thee that men and women in every walk of life are being aroused to the necessity of more sanitary conditions, are being aroused to the necessity of care of the human body wherein the spirit of man may have a tabernacle to dwell that is clean and wholesome. We pray that Thy blessings may rest upon this particular association that is meeting just now. We pray that Thou wilt bless every discussion that is made here. Bless him who presides as well as those upon the program and every one in attendance, and we pray Thee that Thy blessings may go to the entire citizenship of our city and state because of the meetings of these men, and may all the deliberations and all workings of this profession be in keeping with the Divine and revealed will of our Lord and Master, our Great Physician, Jesus Christ. We ask these things in His name. Amen.

THE PRESIDENT: We will now have an address of welcome from the Hon. T. W. Thomas:

ADDRESS OF WELCOME BY MR. THOMAS.

Mr. President and Members of the Kentucky State Medical Association:

I esteem it very highly indeed to be afforded this opportunity of extending to you a cordial welcome to our community. In so doing I am executing a commission of the Warren County Medical Society in its organized capacity, the city of Bowling Green, and am voicing the sentiment of our entire population. (Applause.) But I esteem it a personal privilege to be present this morning because I am the son of a physician and the grandson of a physician. That grim destroyer against whom he had fought so valiently for others called for father at the high noon of a busy professional life as he sat by the bedside of a patient, a full panoplied warrior against disease. Thereafter the grand-father became my counsellor and my guide. I was with him daily as he walked with firm and undaunted tread down the slope of life—serene, dignified, clean, ripe in years and wisdom, representing in his personality that highest type of manhood, a country doctor of the old school. (Applause).

I was with him at the sunset. After a quarter of a century the after-glow of this old physician's life lingers about me yet. These two physicians are the fixed stars in my firmament. The respect and reverence inculcated in me by association with them are the noblest of all human occupations, not claiming a divine call for its inspiration. It enables me to enter heartily into this glad welcome. But we are glad to welcome you because of what you stand for in society and in the economy of civilization. The world looks with a cold and critical gaze upon the legal profession, notwithstanding that profession has given to the world the largest number of publicists, and members of that profession have largely fought and won the battles for religious, civil and constitutional liberty. History grudgingly, yet justly, yields to the lawyer credit and honor, but fiction pillories him with the literary javelin. Even the humorist considers the lawyer his special quarry as this story illustrates:

Two crooks went to burglarize a house. One stood watch on the outside while the other entered. When he who had entered reappeared, the first crook said, "Did you get anything?" Second crook, "No. This is a lawyer's residence." First Crook: "Did you lose anything?" (Laughter).

But when the physician is mentioned the eyes soften and the voice takes on a sympathetic note. The physician is so intimate in the relation he bears that he is indissolubly bound up with our joys and our sorrows, and if we enter a picture gallery of fiction to find a physician, William McClure and a host of others beam down upon us with benign and saintly countenances. But, my friends, we are amazed. What shall we say of those heroes of the profession who voluntarily have marched into pestilence and pestilential districts to minister to the sick and dying? There are other heroic benefactors of the race who have died that we might know not only the cause but the means of preventing some of our most virulent diseases. The name of these immortals should be emblazoned upon our shields, for, my friends, it does not require the rattle of musketry, the roar of cannon, the blare of trumpets and a field of carnage to make a hero. Heroes are born. They are men of great moral courage. We stand amazed and marvel at the progress, the inventions and the discoveries that have been made in the mechanical arts. And yet I declare to you to-day, that if the advancement which has been made in the science of medicine and the science of surgery is measured, we will find that the physician and surgeon have fully kept abreast of the world's progress along any line of endeavor. Why, my friends, to have abandoned laudable pus in favor of antiseptic surgery is itself a sufficient achievement for a whole century. (Applause).

Of course, every profession has its laggards, but I find they usually do not attend meetings of the Bar Association, or the meetings of the medical societies. They get their diplomas or their licenses to follow their profession and then stop, reminding us of the little girl who gave as a reason why she had fallen out of bed during the night, "I went to sleep so close to where I got in." (Laughter). Some start with high aspirations, and then get into the habit of stopping continually on the way, like the horse that I heard a man was driving along the public highway; moving at a slow gait and stopping every now and then, and a passer-by asked the driver, "Is your horse sick?" He replied, "If he is sick, I don't know it." "Well," said the passer-by, "why does he continually stop and halt upon this road?" The driver replied, "he is so afraid I will say Whoa! and he may not hear it, he stops every now and then to listen." (Laughter).

But, my friends, you, and above every other consideration, we are glad to welcome to-day with a larger view and from a larger standpoint.

In this age there is the great cry of conservation, and you are engaged in the greatest conservation movement of all times. All other conservation movements are but secondary. Your movement is primary. We conserve the soil, the timber, the coal—all of our natural resources to administer unto man, while you are engaged in conserving humanity, itself, and all conservation fails in its essential purpose unless we can teach man himself to be fit and efficient. In fact, what greater purpose could there be in life than to conserve life itself, for Confucius centuries ago spoke truly when he said, "we are so ignorant of life, how can we know death?"

We speak of the high cost of living, but do we ever stop to consider the elements that enter into it? Do we laymen realize as you physicians do, that every sick man, that every idle man is an economic waste? Those who are inefficient and unproductive must be supported by those who labor. Those who are idle consume a certain portion of the world's stock of wealth, and it matters not whether they be supported by friends, by taxation, or by public or private charity, the cost of the maintenance of these people enters into the cost of living of all of us. But if, in addition to being idle, they are also sick as to require the aid of physicians and have to withdraw from productive enterprises, they must likewise be supported from the world's stock of wealth. The rearing of a child to manhood is a charge upon the world's stock of wealth, and if he suffers a premature death before he has his cost of rearing from the world's stock of wealth, it is an economic waste.

In combatting disease, my friends, in prolonging life, in preserving health, you are all engaged in the greatest enterprise which has ever claimed the attention of mankind. It is a great mission to heal diseases, but the mission to prevent disease is a wider one. Mankind first struggles with nature for a bare sustenance, and struggles with his fellow man for his rights as a member of society, and finally struggles to maintain a complex and advancing and developing civilization, and this is the greatest conquest of it all, and the implements and instruments of this contest are the test tube and the microscope instead of the ax and the rifle.

We congratulate the profession upon the spirit in which it has undertaken to make the healing of diseases secondary and the preservation of life primary. In doing this your profession has caught the spirit of that altruism which pleads for the solidarity of the race, and it exclaims "we cannot be happy while others suffer," and your efforts and the efforts of mankind to ameliorate, to eradicate, to wipe out, to stamp out some of our dread diseases, like the great white plague, bear testimony to the fact that the doctrine of the brotherhood of man is not only a faith but a fact, and all these great agencies moving forward with the spirit of cooperation are hastening that day, my brethren, when we shall come to know that love of the Almighty, all-pervading, doth all things mold, all things sustain. We welcome you. (Loud applause).

RESPONSE TO THE ADDRESS OF WELCOME BY C. G. STEPHENSON.

C. G. STEPHENSON: Mr. President, Ladies and Gentlemen, Honored Sir:

An adequate response to such a welcome as this, to such a tribute as has been paid to our profession, can only be made as coming from the innermost recesses of the heart and couched in such words as would do honor to our profession this morning. The first requirement I have; the latter I have not. You will observe, gentlemen, that those from the humble walks of life, or from the humble positions in our pofression, are called upon at some time to take part in the proceedings of our meetings. So have I been called. You will be assured of this fact that I express to you, my dear sir, as a country physician our extreme appreciation of this opportunity of being your guest. We consider ourselves extremely fortunate, sir, to be your guests. Your hospitality is unbounded, your welcome most cordial; yet, gentlemen, this is such a welcome as we expect. We know you both personally and by reputation. Sir, the name of your city and the names of your doctors are almost synonymous terms with generosity, hospitality and general medical progress. Our Association in its infancy was rocked in the cradle as a babe by the tender hand of some of your distinguished physicians, and this infant association has grown to its present state under the wise and able supervision of some of your distinguished physicians, and the name of McCormack is linked with things medical (applause) in our present, past and future history, as are the names of Dudley, McDowell, and Gross linked with the history of surgery. (Applause).

I am glad you surrender to us your city without a struggle. We shall return it to you at the end of three days with just a few dents, as might be expected after such unusual wear and tear to which it may be subjected during our stay with you. (Laughter).

We have with us some young doctors who have not yet fallen victims to cupid's charms but I assure you they will make willing victims, and you can assure the young ladies of your city they have my word for that statement. The young men will be as grass turned losse in your pastures to exercise (Loughter.) The older doctors, as the old work horses, are not quite so gay, but they are able to show a good gait. Sir, we could not accept or appropriate or enjoy the full measure of your hospitality that has been so generously shown us unless you are able to agree with the old preacher who had told some of the boys the scriptural lesson he would read to them the next morning. The boys found the place, glued the connecting pages together, and the old man the next morning read from the bottom of one page, "And when Noah was 120 years old he took unto himself a wife who was (then turning the leaf) 300 cubits long, 50 cubits wide, 30 cubits high, built of gopherwood, and lined inside and out with pitch." (Laughter).

To accept such unbounded hospitality as has been extended to us, we must be fearfully and wonderfully made. I salute, then, the first city of the grandest state of the greatest government on earth, and in paying this earnest compliment to this thriving city and to these generous people, I need not encumber my speech with argument or statistics. It is enough for me, sir, to say that my friends and myself make obeisance to your city as the chief metropolis of this part of the State and to your generous people. Again, I thank you, in behalf of the association, for your cordial and hearty welcome. (Applause).

THE PRESIDENT: We are about to conduct into this office Dr. W. O. Roberts, your choice as president for the ensuing year. We think at this moment of the disinguished and gallant surgeon-general of the Confederate Army, his father-in-law. We think, then, of Dr. Roberts personally, what he represents to the State of Kentucky as one of its grandest surgeons and men. I think of him, and many of you think of him, as our teacher, whom we respect and revere.

It is my pleasure, following the custom of this association, at this time to proclaim him, Dr. W. O. Roberts, President of the Kentucky State Medical Association, and surrender to him the gavel. (Applause).

PRESIDENT ROBERTS (taking the chair): I take this opportunity of thanking the boys for the great honor they conferred upon me. (Applause).

D. O. HANCOCK (in retiring): I appreciate this privilege of again thanking you for the honors which have come to me at your hands during the past year and for three or four years. How well I have performed these duties you know. I take it to my heart that every one will say I have done what I thought was right. Some things have come up in the course of my service that have prompted some inquiry, but no act that has been worked out in private has been given undue publicity. All has been honorable, straightforward, and for my associates in this work—the Council, delegates, members, officers in every way—I have the kindest feeling, and at this time take the privilege of thanking you again. As your presiding officer, I have never had a more hearty response in presiding over any body than I have in presiding over the Kentucky State Medical Association, and I thank you most heartily for that. (Applause).

Two years ago at Paducah you elected me as your president. Last year I was too busy to be hardly civil to you who had honored me so much. I am now in the ranks, and during this session it shall be my especial pleasure to meet you all and to give you the glad hand, and I thank you personally for the honors that have come to me, and that is all I have to say at this time. (Applause).

The President, Dr. W. O. Roberts, Louisville, then delivered his address. He selected for his subject "Progress of State Medicine."

At the conclusion of the address, J. N. McCormack said: I move that the cordial thanks of the Association be tendered to Dr. Roberts for his exceptionally able, practical and interesting address, and that it be referred to the Council with instructions to publish it and lay it before the profession at the earliest possible date.

Motion seconded by several and carried unanimously by a rising vote.

PRESIDENT ROBERTS: Gentlemen, I thank you very much. (Applause).

We will now hear from the Chairman of the Committee of Arrangements, Dr. Blackburn.

Dr. Blackburn reported on behalf of this committee. (For detailed report, see proceedings of the House of Delegates).

At the conclusion of the report of the Chairman of the Committee of Arrangements, the reading of papers was begun.

H. A. Davidson, Louisville, read a paper on "Vaccine Treatment of Pertussis in Children."

The discussion was opened by Lillian H. South and continued by Phillip F. Barbour.

Phillip F. Barbour, Louisville, followed with a paper entitled "Epidemic Acute Anterior Poliomyelitis."

This paper was discussed by Drs. Beard, Moren, Burnett, Percefull and Vance.

John W. Gilbert, of Lawrenceburg, read a paper on "Potassium Iodide."

T. A. Frazer, Marion, delivered the oration in medicine. He selected for his subject, "The Conservation of our Greatest Natural Resource."

THE PRESIDENT: I am sure, the members of the Association feel grateful to Dr. Frazer, for the masterly way in which he has handled this subject.

THE SECRETARY: Drs. Morrison, Barr, Bryan, and Fort of Nashville, distinguished members of the Tennessee State Association, are with us this morning, and I move that they be extended the privileges of the floor, as well as any other visiting physicians who are members of state associations, who will present their names to the Committee on Credentials, so that they can also be presented.

W. W. ANDERSON: I second the motion. (Carried).

On motion, duly seconded, the Association adjourned until 2 P. M.

First Day—Afternoon Session.

The Association reassembled at 2 P. M., and was called to order by the president.

The first order was a symposium on "Gastric and Duodenal Ulcer."

Papers were read as follows:

"Diagnosis and Medical Treatment of Gastric and Duodenal Ulcer," by C. G. Lucas, Louisville.

"Relation of Gastric Ulcer to Gastric Cancer," by William Carpenter MacCarty, Rochester, Minnesota, illustrated by numerous stereopticon slides.

"Diagnosis and Indications for Operation in Gastric and Duodenal Ulcer," by A. D. Willmoth, Louisville.

The symposium was discussed by William H. Wathen, W. W. Anderson, J. Garland Sherrill, Louis Frank, and the discussion was closed by the three essayists.

THE SECRETARY: We have with us today the rare honor of two Ex-Kentuckians, who are eminent in their respective branches of the profession, and I desire to nominate Dr. MacCarty, of Rochester, Minnesota, and Dr. V. P. Gibney, of New York City, as honorary life members of this Association, in order that we may have the privilege of having them with us from time to time as the years roll by, and they may always feel they are welcome back to their native state as they have honored us and the profession in their service for the people of the whole world. (Applause).

Motion seconded by several and unanimously carried.

V. P. Gibney, New York City, read a paper on "Diagnosis and Treatment of Knee Lesions in the Adult."

THE SECRETARY: Inasmuch as Dr. Gibney's paper has covered the subject of which it treated so fully and completely, I move that discussion on it be postponed until the other papers have been read.

Motion seconded and carried.

Jacob Schultz, Logmont, read a paper on "Bacterial Diseases and Their Prevention."

Dunning S. Wilson, Louisville, read a paper on "Prevention of Tuberculosis."

O. P. Nuckols, Pineville, followed with a paper on "End Results of the Hookworm Dispensaries."

These three papers were discussed by Drs. Morris, Frazer, Solomon, Smock, a member, McCormack, (A. T.), Yelton, Lock, Lackey, Shirley, Hendren, South and the discussion closed by Dr. Schultz.

On motion, the Association adjourned until 8 P. M.

First Day—Evening Session.

The Association reassembled at 8 P. M., and was called to order by Vice-President Hendren.

Dr. Olin West, Nashville, Tennessee, delivered the annual oration.

Leonard W. Doolan, D. D., Bowling Green, spoke on the "Minister and Public Health," after which the Association adjourned until 9 A. M., Wednesday.

Wednesday, September 3—Second Day,

Morning Session.

The Association met at 9 A. M., and was called to order by Vice-President Hendren.

THE SECRETARY: It is with the profoundest emotion that I come before the Assiciation to announce the receipt of direct information that Dr. J. B. Marvin, an ex-President of the Association, and his wife and daughter were killed in a railroad wreck on yesterday.

Every man in Kentucky knew J. B. Marvin; a man of the strictest rectitude, trustee in his own person of great wealth; a wonderfully skillful physician and diagnostician, and probably responsible for as much that is good in medical education as any other man in the South; a man to whom more men in Kentucky are indebted for the improvements in medical education than any of the self-sacrificing men in Louisville who have given their time and means and money to this great cause. He was one of our most devoted ex-Presidents, who had been constant in his attendance on the meetings of the Association and took an active part in its deliberations.

I would like to move, Mr. President, that when this Association adjourn, it adjourn in honor of the memory of Dr. Marvin, and that the society be represented at his obsequies by a committee to be appointed by the President, and that we convey to the survivors of his family in a formal way at the proper time the respect of this Association, and that at the proper time the Association be represented in Louisville when the memorial exercises shall be held for him by the Jefferson County Medical Society.

Motion seconded by several delegates.

LOUIS FRANK: Personally, I would like to make some remarks, but this matter touches me most profoundly, so that I cannot say anything at this time. I merely rise to move, sir, that this Association unanimously express its approval of this motion by a rising vote.

The motion was then put and carried unanimously by a rising vote.

VICE-PRESIDENT HENDREN: For reasons not necessary to mention, I am going to let Dr. Roberts appoint that committee which he will do in a little while.

Is there any further business to come before the Association before we proceed with the reading of papers?

THE SECRETARY: In looking over this body from the platform, I find there is one face missing. This man has never missed a meeting of the Association since I have been associated with it. He has been on the benches; he has been on the rostrum among the essayists; he has been in the field as one of our councilors. He was an active president of the first successful county medical society organized in our metropolitan city of Louisville. From the president's chair, he conducted one of the greatest meetings that the Association has ever held, and he is one of the most beloved physicians in Kentucky. I refer to Dr. John G. Cecil, who is detained from attending this meeting by serious illness.

I move, sir, that a telegram of regret and confidence and sympathy be sent him by the president officially to show him the distinguished consideration and the real affection and love we all feel for him, and together with the regret that we have not the pleasure of him with us.

Motion seconded by several.

W. W. ANDERSON: I would like to amend that motion to the effect that we send a committee from the Association to Dr. W. W. Richmond, also an ex-president of this Association, who is a constant attendant of these meetings, a councilor, whether serving in that official capacity or otherwise, one of the greatest workers for our Association in the State, one of our greatest men, and who is detained and unable to be present on account of illness, and who is at present in this city. Therefore, I move that a committee be appoint to wait on him and convey to him our sympathy and good will.

The amendment was seconded and accepted.

J. R. MORRISON: Dr. Cecil asked me to give his love and best wishes to the members of this Association. I saw him before I left. He hoped we will have a successful meeting and conveys his best wishes for the continued success of the Kentucky State Medical Association.

The original motion as amended was then put and unanimously carried.

VICE-PRESIDENT HENDREN: The President of the Association will appoint these committees.

THE SECRETARY: I note in the room the presence of Dr. Bransford Lewis, of St. Louis, Missouri, one of the most distinguished members of that branch of the profession known as urology.

I would like to move, sir, that Dr. Lewis be made an honorary member of the Association and be invited to a seat on the platform and to take part in our deliberations. We are honored by the presence of such a distinguished leader of medicine.

Motion seconded and carried by a rising vote.

Dr. Lewis was escorted to the platform by Carl L. Wheeler.

R. C. McChord, Lebanon, read a paper entitled "Uterine Hemorrhage and Its Significance."

The paper was discussed by Drs. Clark, Anderson, Speidel, Guthrie, Frank, Willmoth, and the discussion closed by the essayist.

J. K. W. Piper, Russellville, read a paper entitled "Diagnosis and Treatment of Secondary Puerperal Pathological Conditions."

Discussed by Drs. Grant, Willmoth, Speidel, Solomon, and in closing by the author of the paper.

N. C. Witt, Franklin, read a paper entitled, "Diagnosis and Treatment of Ectopic Gestation."

Discussed by Dr. Donan.

Edward Speidel, Louisville, read a paper entitled "Eclampsia; Causes and Treatment."

Discussion by Dr. Simpson and in closing by the author of the paper.

W. A. GUTHRIE: As Chairman of the Committee on Obstetrics and Gynecology, I wish to thank the essayists for their papers and likewise those who discussed them. Splendid points were brought out not only in the papers but in the discussions, stimulating us to greater efforts in the future.

Gavin Fulton, Louisville, read a paper entitled, "Modern Methods of Infant Feeding."

Discussed by Drs. Rutherford and Morrison.

Newton Evans, Murray, read a paper entitled, "Typhoid Rib."

W. E. Senour, Bellevue, delivered the oration in surgery. He selected for his subject, "Achievements in Surgery."

THE SECRETARY: I move that a vote of thanks be extended to Dr. Senour for this very able, eloquent, and well delivered address.

Motion seconded and carried unanimously by rising vote.

J. N. McCORMACK: I move that we now adjourn until 1:30 P. M.

Motion seconded and carried.

Second Day—Afternoon Session.

The Association reassembled at 1:30 P. M., and was called to order by Vice-President Hendren.

The first order was a symposium on "Diseases of the Nasal Accessory Sinuses."

Papers were read as follows:

"Etiology and Pathology of Diseases of the Nasal Accessory Sinuses," by Ernest Rau, Bowling Green.

"Diagnosis of Diseases of the Nasal Sinuses," by S. G. Dabney, Louisville.

"Treatment of Diseases of the Nasal Accessory Sinuses, Surgical and Otherwise," by J. A. and W. S. Stucky, Lexington.

Dr. Bransford Lewis, St. Louis, Missouri, delivered the oration in Urology, his subject being, "The Necessity of Refined Genito-Urinary Diagnosis; together with the Methods of Attaining Same; Illustrated with Lantern Slides."

D. Y. Keith, Louisville, read a paper on "The X-ray As An Aid in the Diagnosis of Diseases of the Internal Organs."

Following the paper of Dr. Keith there was a symposium on diseases of the gallbladder.

Papers were read as follows:

"Symptomatology and Diagnosis of Gallbladder Diseases," by J. B. Lukins, Louisville.

"Medical Treatment of Gallbladder Diseases," by W. F. Boggess, Louisville.

"Indications for Operation in Gallbladder Diseases," by Louis Frank, Louisville.

"Surgery of the Gallbladder," by J. D. Jackson, Danville.

"After Treatment and End Results in Surgery of the Gallbladder," by F. H. Montgomery, Danville.

The symposium was discussed by Drs. MacCarty, Solomon, Grant, McChord, Prewitt, and the discussion closed by Boggess and Montgomery.

On motion the Association adjourned until 9 A. M. Thursday.

September 4—Third Day—Morning Session.

The Association met at 9 A. M., and was called to order by the President.

R. Hayes Davis, Louisville, read a paper on "Vaccine Therapy."

Will Mason, Jr., Murray, followed with a paper entitled "Intubation in Membranous Croup,"

The next order being a symposium on "Difficulties of Urination in the Male," papers were read as follows:

"Stricture of the Urethra," by J. T. Windell, Louisville.

"Contracture of the Vesical Neck," by George H. Day, Louisville.

"Prostatic Hypertrophy," by Homer G. Hamer, Indianapolis, Indiana.

"Atony of the Bladder," by Carl Lewis Wheeler, Lexington.

The symposium was discussed by Drs. Peake and Zinke.

On motion, the Association adjourned till 1:30 P. M.

Third Day—Afternoon Session.

The Association reassembled at 1:30 P. M., and was called to order by Vice-President Hendren.

Edgar Duff Burnett, Anchorage, read a paper on "The Diseased Domestic."

John H. Peak, Louisville, followed with a paper on "Traumatic Displacement of the Kidney."

B. E. Giannini, Straight Creek, read a paper on "Emergency Surgery."

Virgil E. Simpson read a paper on "Commercialism, Credulity and a Criticism: a Study of the Responsibility for Therapeutic Anarchy."

On motion, the Association adjorned *sine die*.

Arthur T. McCormack, Secretary.

OFFICIAL MINUTES OF THE HOUSE OF DELEGATES.

OF THE SIXTY-THIRD ANNUAL SESSION OF THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT BOWLING GREEN, SEPTEMBER 1, 2, 3, AND 4, 1913.

SEPTEMBER 1—FIRST SESSION.

The House of Delegates met in the Auditorium of the First Christian Church and was called to order at 1:35 P. M., by the President Dr. D. O. Hancock, Henderson, who said: The House of Delegates of the Kentucky State Medical Association is now declared convened.

We find that the Committe on Credentials is composed of Drs. C. A. Calvert, Chairman; W. S. Sandbach and W. R. Moss. Are these gentlement present? They do not seem to be present, and we will appoint in their stead to act temporarily Drs. Vance, Clark and Thornton.

The Committee will please take the list of delegates as furnished by the Secretary, convene in an adjoining room, and report at the earliest convenience.

I do not know whether we have a quorum or not, but there is a rule in Congress that when no question is raised on the report, we may proceed with the business, and this we have done. If the committee is ready to report at this time, we will hear the report.

THE SECRETARY: The Committee on Credentials presents a list of the delegates, with proper credentials, recognizing the secretary's endorsement of the same, and will report any additions from time to time to the House of Delegates.

THE PRESIDENT: What will you do with this report?

It was moved that the report be received and approved.

Motion seconded and carried.

THE PRESIDENT: This committee will serve as the Committee on Credentials until the other members of that committee have arrived.

We will now listen to the roll call by the Secretary.

The Secretary called the roll and announced a quorum present.

THE PRESIDENT: Our By-Laws provide that members of the State Medical Association of Kentucky may attend the meetings of the House of Delegates. I say this because possibly there are some in attendance at this meeting who will feel some delicacy in coming to the House of Delegates. It is your privilege to attend these meetings, but you cannot vote unless you are delegates.

The next order is the reading of the minutes of the last annual meeting.

THE SECRETARY: These minutes were published in the KENTUCKY MEDICAL JOURNAL, January 1, 1913, page 9, and have doubtless been read by the members.

R. C. McCHORD: I move that we dispense with the reading of the minutes.

Motion seconded and carried.

THE PRESIDENT: We will hear the report of the Committee on Scientific Work, W. O. Roberts, Chairman.

THE SECRETARY: The Committee presents the printed program as its report, and I move its adoption.

R. C. McCHORD: I second the motion. (Carried).

THE PRESIDENT: Is the Committee of Arrangements ready to report? Dr. John H. Blackburn is Chairman of this Committee.

THE SECRETARY: I move that the report of the Committee of Arrangements be deferred until later in the session when there are a larger number of delegates present, as Dr. Blackburn has important announcements to make.

THE PRESIDENT: There can be no objection to that, and it is so ordered.

THE PRESIDENT: The next is the report of the Council.

THE SECRETARY: The Council has directed me to read the report in full, although it has been published in THE JOURNAL.

The Secretary then read the report of the Council. (See Page 701, KENTUCKY MEDICAL JOURNAL, September 1, 1913).

THE SECRETARY: I move that this report be referred to the Reference Committee on Reports of Officers.

Motion seconded.

THE PRESIDENT: In connection with this report I wish to speak of one or two items. As your President, during the year, I took the liberty of asking some questions and returning some of the vouchers and checks to the Secretary. Occasionally we have had some scraps along the line of finance, although we straightened them out and all checks have been paid. One item of $300 came to me as a retainer's fee for Mr. Hines. That might mean more. I had observed in the minutes the year before the same bill was marked for services account of medico-legal defense for the year 1911. I took the liberty of sending that check back and asking what it meant, and when a satisfactory explanation was made I passed the check on without further question. I was at perfect liberty to make these inquiries. I made inquiries regarding several checks. I did not question the bills in the items for officers and for the clerical force, although we had some discussion about it. The chief discussion arose over medical defense in Louisville. When they came to me officially and I found that there were attorney's fees of $750.00, that they had employed detectives, and things of that kind, with no limit seemingly to the expense. I held up those matters and held back the checks until I had thoroughly investigated the matter, then I approved the vouchers and no further trouble arose. Perhaps the worst feature in our financial system is that of paying out checks for expenses and then approving them afterwards. A large per cent. of our business is done that way. Sometimes it cannot be avoided, but a great deal of it can. For instance, the expenses of this House of Delegates we expect to pay. I do not know what that expense will be. I should know, but I do not. I am satisfied it is in good hands.

The expenses of a meeting like this should be gotten together and presented to the House of Delegates for approval. It has been the custom to present them to the House and approve them and then pass a resolution instructing the Secretary to pay additional expenses when no items are mentioned. As I see it, this is a violation of the Constitution and By-Laws which require that all appropriations shall be made by the House of Delegates and definite amounts shall be stipulated. Sometimes this cannot be done. At the confessional we may say "for this and all other sins", but we do not have that provision in our Constitution and By-Laws. I am talking to you in this way for the future, hoping you will pay especial attention to these matters and as far as possible do away with the practice of paying bills and approving them afterwards. The House of Delegates is the business body of the Association. You cannot get by that, and you do not want to get by it, so that November 18, I wrote the Secretary about this, and that these fixed salaries and contracts should have incorporated in them the bills which should come before us. In the main, if you will compare exhibit B with former exhibits, you will find we are able to adhere reasonably well to this, and I hope in the future the Association will arrange it so that you can take the order of presenting bills here, approving them, and paying them. The power of the House of Delegates, which is the business body of the Association, has been limited very materially in the past as regards the finances of the Association. Understand me clearly. I make no charges of anything wrong in the Association in its work, but as a matter of business, and in compliance with our Constitution and By-Laws, we must earnestly urge as we have tried to do this year in the future that bills be brought before the house for approval before they are paid.

The motion of the Secretary was then put, carried, and the report was referred to the Reference Committee on Reports of Officers.

THE PRESIDENT: We will now listen to the report of the Secretary.

The Secretary read his report. (See Page 716, KENTUCKY MEDICAL JOURNAL, September 1, 1913.)

THE PRESIDENT: The Secretary's report will likewise be referred to the Reference Committee on Reports of Officers without a formal motion.

With reference to the matter of raising the dues, it is clearly understood now between the president, the secretary and the councilors that we made a mistake on the raising of dues last year, and that the thing for us to do, if we want the dues increased, is to raise them this year according to the By-Laws, giving due notice, letting the matter lay over a day or two, taking it up and carrying it by a two-thirds vote. This will be done some time during the session. We had some discussion about this matter, and for that reason it was my desire to make this statement in connection with it.

THE SECRETARY: The Council has instructed me to submit a motion that Chapter IX, Section 1, of the By-Laws, be amended so as to read "An Assessment of $3.00 per capita on the membership of the component societies is hereby made the annual dues of the Association."

I move that this be referred to the Committee on Constitution and By-Laws.

Motion seconded and carried.

THE PRESIDENT: This gives notice in compliance with the requirement that it shall lay over for a day.

We will now hear the report of the Treasurer.

W. B. McCLURE: I would refer the House of Delegates to the published report of the treasurer in the KENTUCKY MEDICAL JOURNAL, September 1, 1913.

The auditor refers to the fact that a number of vouchers were not signed on the blank line receipting for the voucher. All of these vouchers were signed as you would endorse a check across the back, and accordingly I have instructed the banker to honor all checks where the name of the party to whom a check is made payable is signed across the back of it. The voucher blank is useless. I wanted to explain that feature, and to say that all checks endorsed across the back will be accepted.

THE PRESIDENT: What will you do with the report of the Treasurer?

It was moved and seconded that the report be referred to the Reference Committee on Reports of Officers. Carried.

THE PRESIDENT: We will now listen to the report of the Business Manager of the JOURNAL.

DR. LILLIAN H. SOUTH presented her report (see KENTUCKY MEDICAL JOURNAL, September 1, 1913), and in connection with its presentation said: Every article furnished is published in the JOURNAL, and when I make up this month's JOURNAL, September 15, everything in the drawer will be cleaned out. We will not have an article that has not been printed. This is unusual for a state society. Other state journals do not publish everything that comes in. We like to publish everything the members write. We are 136 pages short this year, and we hope next year to add that much to our credit. We have increased two pages in our advertising matter, and our journal compares very favorably with other state journals. For instance, Illinois cost the state society for their journal, $10,000 a year. They get $3,000 every year for advertising and $7,000 from the membership. Illinois has a great many more physicians than Kentucky. It is the same about the State of New York. The City of New York has more members than our Association, yet the journal costs the society $5,000. They do not make enough money from advertisements to pay for their journal.

We tried to give you a memorandum of the work in the JOURNAL of each county society for 1912-1913. We have a slight increase in our work. There are a great many county societies that do not send in any reports. Some of the county societies are doing excellent work. Fayette county, and many others are not doing as good work for the JOURNAL as they might do, and some of the county societies have a blank opposite their name.

We want to call your attention to the exhibits. We go to a great deal of trouble to get these exhibits, and we select only such as are approved by the Council on Pharmacy and Chemistry of the American Medical Association. These exhibits are brought here at a great deal of expense and we hope the members will visit them. They expect support from the doctors.

THE PRESIDENT: This report goes to the Reference Committee on Reports of Officers.

If I may add a word in connection with what has been said, I will say that we notice a difference in the printed matter of 130 or 140 pages as compared with the printed matter of last year. We note also the cost of printing the journal is $1,300 or less than it was last year. The secretary in his report made some explanations of this, stating that there was not so much discussion last year, and on that account we were able to reduce the expense. I am sure it did not cost $1,300 to print these 130 or 140 odd pages, so that the reduction in expense comes somewhere else, and I am sure the secretary, if it were necessary, could explain that. I speak of this because there is an implied criticism on the program, that we did not have discussion. I went away from Louisville last year with the impression that we had a splendid program, and for that reason I speak of it.

We will now listen to the reports from the councilors of their respective districts. The first district we will pass as Dr. Richmond is not present.

REPORT OF COUNCILOR FROM THE SECOND DISTRICT.

CYRUS GRAHAM: On August 21, I addressed the following letters to the secretaries of the different counties of the second district, and enclosed a stamped envelope for answers.

How many members have you in good standing?

How many delinquents?

How many physicians in your county, counting all members and non-members, whether practicing or not?

How many honorary members?

How many meetings have you had?

I received answers from all but one of them, and from those 10 counties reporting I learned that we have 384 members of the medical profession, and 262 of this number are members in good standing; 84 delinquents, 38 not practicing, and 6 honorary members. In these 11 counties there have been held 45 meetings. Henderson county reports 15 meetings, while Hancock reports as not having had a meeting for more than two years. Last winter I received a report from Hopkins county of 56 members, and 38 non-members; McLean with 17 doctors, with 11 members in good standing.

I have received no answer to my letter of inquiry of August 21 from these two counties.

We have in the 11 counties comprising the Second District more than 400 graduate physicians, but many of them are not engaged in active practice, and some have never been in practice at all.

Henderson county reports three honorary members, Union county two, and Hopkins one. These three counties have the distinction of being the only counties in the Second Councilor District reporting honorary membership. I think it a good plan for the societies in the different counties to elect certain physicians who have grown old in the harness and have upheld the honor and dignity of the profession, have stood by the faith, to elect such men to honorary membership, and let the younger members bear the brunt of organization and work.

I did not have an opportunity to attend but one county meeting outside of my own county of Henderson, and that is Union. I had the pleasure of accompanying Dr. Griffith, my predecessor, on a visit to the Union County Society. It is needless to say that we had a splendid meeting. Union County is noted for her well-informed physicians and interesting meetings.

My expenses as councilor during the past year have been $12.17.

THIRD DISTRICT.

E. RAU: The delegates from my district wish to get together before to-morrow and make our report. We are not ready to present it at this time.

THE PRESIDENT: We will pass the report of Dr. Rau, and with your consent we will ask them to write their report and file it with the secretary.

SIXTH COUNCILOR DISTRICT.

R. C. McCHORD: As councilor of the Sixth District, I beg leave to make the following report: In my district every county is organized. There are 110 doctors in this district of all grades; 86 are members of their county society. There has been an increase of four members since 1912. With very few exceptions, every eligible doctor in this district is a member of his county society, most of the non-members being men who have retired from practice. In most instances they are honorable men who, up to the time of retirement, paid their dues.

I would suggest that the Council be instructed to determine the status of these men, and if such a thing be possible, where they have been elected honorary members, to devise some means of keeping them on the rolls without payment of dues, and if it is practical, allow them to receive the JOURNAL free of charge.

REPORT OF COUNCILOR OF THE NINTH DISTRICT.

J. W. KINCAID: The membership of the Ninth District has remained stationary during the past year. The lack of sustained interest, due to the failure of those appointed to prepare papers or to report clinical cases, is largely the reason for this condition. It is very little encouragement for doctors to leave their work and homes and at considerable personal inconvenience attend a meeting of their county society, losing a day or two in time to do so, only to find that the papers which they expected to hear and discuss had failed to materialize. The members of the local societies should have a greater sense of their personal obligation to discharge the duties assigned them. If they would only realize that engagements with the profession, tacit though they be, should be more binding than those with their clientele, interest in society attendance would increase by leaps and bounds.

If the Kentucky State Medical Association will honor the Ninth District by holding their next annual meeting at Ashland, I am sure it will stimulate an increased membership in the district more than the combined efforts of a half dozen councilors could effect. At present, about one-half of our societies are doing good work, and the other half only needs the encouragement to be afforded by such a meeting to do even better.

I attended by invitation one meeting of the Pike County Medical Society during the past year, at which time "Pellagra, With Exhibition of Cases," was the subject of the evening. We had a very interesting time, even if the clinical cases were not presented, and two members were the fruits of the occasion. I have received substantial encouragement that it will be possible to revive one of my counties which has become moribund this fall.

REPORT OF COUNCILOR OF TENTH DISTRICT.

I. A. SHIRLEY: Ten to the good is the official report of the secretary for the Tenth Councilor District for 1913. This, of course, is something to be thankful for, but was to be expected as no backward step has even been taken by the combination of bluegrass and mountain doctors in our section of the Commonwealth. We regret that there is not as much interest shown in our district as we would like to see—we mean in the sense of attending meetings, reading papers and discussions. Individual county societies are doing as much and as good work as is being done anywhere, but others are sitting as knots on logs and eking out a miserable existence by contenting themselves with paying dues and letting matters go just so. I will not individually say as to my own county, a county that has as good doctors as are to be found anywhere, who are sitting idly by, whittling sticks, talking about the fellow around the corner, magnifying his sins of omission and commission, while his own eye is fairly bursting with a great, big mote which he cannot for the life of him see. But we have been hoping for this thing to right itself for several years in vain. We are now all going to put our shoulders to the wheel and with one accord pull out of the rut of do-nothingness and get busy and stay busy for the common good as well as for the profession to which we owe so much. Listen for the 1914 report, and Clark County and every county in the Tenth District will arise to newness of life and will in addition to increasing their membership likewise increase their efficiency as workers in the society, writing articles for the JOURNAL and in general evangelical work. Hookworm work, which has proven to be such an all-important factor in both the health and efficiency of our people, has largely occupied the time of the councilor, and matters doubtless would have been better if he had seen more of the boys; but after all, as one means bread and butter, and the other nothing but love and good will, who can blame him? Not I.

REPORT OF COUNCILOR FROM THE FOURTH DISTRICT.

C. Z. AUD: I beg to report a total gain of 15 members in the 10 counties—an average of one and one-half to the county. Grayson and Hardin each have the same number as in 1912. If Bullitt had not lost two by death, and Oldham one by death, each of these two counties would have the same membership as in 1912.

Discussions among the members; malpractice suits against doctors, or other troubles of importance are unknown in the district of late. Movements are on foot to take up the hookworm and other sanitary work, and four counties in the district, through their Fiscal Courts, have signified a willingness to furnish their part of the necessary funds to carry on the work. Much good is being done in the Fourth District by the Muldraugh Hill Medical District Society. It brings together many of the best physicians of our portion of the State, and they return to their various communities to do better local work.

I wish to call your attention to a matter that must be settled at some future time. Throughout my district I find worthy old doctors who have fought nobly, but find their financial condition such that they can illy afford to keep up their membership in the State or county societies, and who on account of having abandoned the practice of medicine do not need the insurance feature. In most of the counties the local organizations are making these noble men honorary members and remitting the county dues. Cannot this, the great Kentucky State Medical Association, be as generous to them and continue to forward to them the JOURNAL free of charge?

T. A. FRAZER: We have in our county a man old and decrepit, 80 years of age, whose mind is as active to-day as the minds of any of us. He reads everything he can get his hands on. I have paid his dues to the State Medical Association for the last 7 or 8 years. I cannot afford to do this any longer. I agree with the suggestion made by Dr. Aud, that men of his character who are not able to pay for the JOURNAL should have it sent to them free.

THE PRESIDENT: That is a question that will have to go before the councilors.

THE PRESIDENT: I would like to revert to the report of the Secretary. The Secretary's salary has been fixed for several years by the Council. Our Constitution and By-Laws state that it shall be fixed by the House of Delegates. I hope you will attend to this at this session. It has been the custom to pay $100, but it is the business of the House of Delegates to fix the salary of the Secretary. I hope you will attend to this matter at some convenient time.

This brings us to reports of delegates from county societies, and we will ask the Secretary to call the roll of counties and have the delegates report as he calls them.

ALLEN COUNTY MEDICAL SOCIETY.

C. A. CALVERT: As delegate from the Allen County Medical Society, I desire to make the report of my society. Our society has been doing very good work during the past year. We have not been able to meet as regularly as we would like; but our organization is in good condition. All the physicians in the county, who are in active practice, are now members of the society, except one or possibly two. Probably we will be able to enroll them. All things considered, we are in very good condition.

BELL COUNTY MEDICAL SOCIETY.

JACOB SCHULTZ: The Bell County Medical Society begs to report for the year 1913 as follows: The officers of the society are: Jacob Schultz, President; H. C. Chance, Vice-President; U. B. Brummett, Treasurer, and O. P. Nuckols, Secretary.

The membership for the year 1913 is 37 in good standing, with an average attendance at the regular monthly meetings of 15.

So far this year, there have been no deaths among our membership, and but three removals from the county. Our society is singularly free from any physicians of bad habits, and it is composed of men of studious and industrious lives, and bearing aloft the banner of professional courtesy and conduct.

The work done by the society this year has been a decided advance from any previous year. The annual program was adopted this year for the first time, and is pronounced by all as a great success. The work was made up for the year, and each member assigned to his duty. The program provides for three papers each month, and the member designated who shall open the discussion. Provision is made for the reporting of cases and such matters as are of scientific interest. It has been the policy of the society that each monthly program shall be full, and a friendly rivalry has encouraged those on the program for each month to be prepared, with the result that the program has been well filled at each meeting.

There have been two malpractice suits officially reported during the year, one of which has been thrown out of court, and the other not yet come up for trial, but on the face of which seems without merit. This is a question that calls for the most careful consideration, namely, how to discourage the malpractice suits that are not founded on a just cause.

Another matter of importance that has been considered by the society is the question of getting the county to make an annual appropriation for the purpose of furthering the work of sanitation in the county, with the hope that such an appropriation will be made for the next year.

The general sanitary conditions in the county have been very much improved during the last year, with the result that sickness in general has been greatly reduced, and especially is this true of all preventable diseases.

The County Board of Health has looked closely after the inspection of school children, requiring vaccination when necessary and all other measures that will safeguard the public health.

BARREN COUNTY MEDICAL SOCIETY.

R. S. PLUMLEE: There are 28 licensed doctors in Barren County, 21 of whom are members of the county and state medical societies. Our society meets every third Wednesday. We generally have a very good attendance, but not much interest is manifested.

BOYD COUNTY MEDICAL SOCIETY.

J. M. SALMON: The Boyd County Medical Society has a membership of nineteen. There are thirty-one registered physicians in the county, but nine of these are retired or ineligible. We therefore have in the society eighty-six and one-third percent of the active and desirable physicians of the county. We have had twelve meetings during the past year. A number of excellent papers have been read and the discussions have been uniformly interesting and profitable.

For various reasons, the attendance has not been as good as we wish, but we are planning to take up the work actively and to make a record of attendance, scientific work and growth in membership during the coming winter.

CAMPBELL-KENTON COUNTY MEDICAL SOCIETY.

G. J. HERMAN: The last two monthly meetings before the summer vacation were of special interest. The May meeting was held at Alexandria, the old county seat of Campbell and attended by an unusually large number of our members and medical guests, and also by many of the laity, the program touching subjects in which the latter are interested. This was an all-day session with the pleasing interlude of a royal chicken dinner, and was such a success, that everybody but the chickens look forward to a repetition of it.

The June meeting was held near Independence, the old county seat of Kenton, at the old farm home of Dr. Senour, who was our essayist and host. He more than creditably acquitted himself in both capacities, presenting a fine paper on "Surgical Problems with Special Reference to Anoci-Association, and the Avoidance of Adhesions," and demonstrated his theories by experimental operations on dogs. The dinner was a feast, and the social features memorable. These two meetings have specially impressed us with the idea of combining splendid scientific work with helpful social relaxation.

Some valuable publicity work has been done. Covington has a live anti-tuberculosis society. Lectures have ben delivered by our members on public health problems, the alcohol question, the sex question, the insanity problem, the question of industrial disease and injury, school hygiene, care of eyes, teeth, children's health, etc. The public has shown much interest in the discussion of these various matters and seems to appreciate the altruism of our profession, as shown in publicity work and preventive medicine.

Our membership remains the same at last year, 94. We have lost a few by removal and death. New members received have made up our loss.

Our programs are prepared by a special committee appointed for that purpose. The following method has been employed: A double postal card is sent out to the various members with a request to return with choice of subject. While there has been a little lethargy creeping in among a few members, the scientific papers have been of a high class. The most encouraging signs of the times are the increased number of clinical cases presented.

Monthly meetings are held in Covington, which combine social features with a scientific program.

Our weekly meetings held in Newport, are purely scientific. While our attendance has not been as large as last year, the character of the work has been of a high order. The increase in the number of clinical cases is most gratifying.

There seems to be a lack of interest among the younger members of the profession which we are trying to overcome.

CARTER COUNTY MEDICAL SOCIETY.

D. B. WILLCOX: This society stands more in readiness to work than in actual battle. The run of our trains through the county render chances to meet a little inconvenient for the brethren, yet when a call is made for the discharge of important business, we heed the sound of the gong and all stand as a body ready to advance the true interests of the profession. New physicians coming into our bounds are soon assimilated and numbered among us. In the past year we have had a number of fruitful meetings, mostly directed at empiricism. Another subject, that of hygiene, has also received attention, and great good to our county is and will be the result.

CHRISTIAN COUNTY MEDICAL SOCIETY.

W. S. SANDBACH: I wish to report that the Christian County Medical Society is in better living order than it was last year. We now have a membership of 43 out of 50 active practitioners in the county. The 7 non-members are either men of the old school or men living in the extreme parts of the county. We hold our regular monthly meetings every third Tuesday. With the exception of one meeting, we have had a full program, and at this meeting the time was well spent in case reports and clinical cases. We have had so far this year 13 papers, two quizzes, 14 case reports, and 6 clinical cases.

We have been dined twice, once by Hopkinsville's leading laundryman and florist, Mr. T. L. Metcalf, and once by Dr. H. P. Sights at the Western State Hospital.

The society at its December meeting bought a typewriter for the use of the Secretary.

We have held a joint meeting with the druggists of the County, with two of the druggists on the program. This meeting was a very popular one and went far toward strengthening the close relation of the professions. We have also had an excellent paper from one of the leading local attorneys, the Hon. James Breathitt.

The hospital that was established last year has proven very successful, and now the surgery of the county is being done by our own members.

Our Health Department is still doing its good work. A six weeks' health campaign has just closed. This aroused unexpected interest in the county and is sure to be of great benefit

The spirit of harmony is still growing among our members and the prospects are bright for a larger and better society next year.

CLAY COUNTY MEDICAL SOCIETY.

I. S. MANNING: Clay County Medical Society still gives forth occasional signs of vitality. At times, it seems almost moribund; then its worthy secretary, J. L. Anderson, gets his nursing bottle applied to a sick society, introduces artificial respiration, uses hypodermoclysis, and once more the curtain rises on a group of medicals known as C. C. M. S. It now takes 11 gentlemen of degree of M. D., to cover Clay County territory satisfactorily. Ten of these are registered physicians and members of Clay County Medical Society. One stays out of its loving embrace, although often invited to join.

This society had a meeting in February, 1913, and another in April. At both meetings interesting papers were read and discussed.

At the instigation of our indefatigable secretary an open meeting is planned for September 22, 1913. One of the prime objects of this meeting is to set the people right as to the real objects of a medical society.

Papers on sanitation and prevention of disease will also be read. Possibly some of the laity will take part in the discussions. Thus it is hoped that the people may be benefited and come into a better understanding of the tremendous calls made by modern civilization on the medical profession.

CALLOWAY COUNTY MEDICAL SOCIETY.

W. H. GRAVES: The Calloway County Medical Society sends greetings to the delegates of the other county medical societies throughout the State of Kentucky, now assembled in session at Bowling Green, and begs to submit the following which describes the condition in our county and society. Calloway County is part of the Purchase district of Kentucky, contains more than 500 square miles, and lies in the extreme southwestern portion of the state just north of the Tennessee State border. It has 20,593 live, active, progressive citizens, who are advancing in a material way their social, educational, and commercial interests, devoting much time in improving their public schools, public highways, and agricultural methods. It is an agricultural community and our farmers own and operate their own farms. The renter is the exception rather than the rule. Murray is the capital of Calloway and is the principal city within her borders. It has about 3,000 prosperous citizens and is rapidly growing. Within the last five years she has laid concrete walks throughout her principal streets, owns and operates her own waterworks plant. She has electric lights; has organized a company of her own citizens with a capital of $10,000 to install a sewerage system. The county has voted $50,000 for a new court house which is two-thirds complete and has the certain assurance of an electric interurban railway, the first section to extend from Paducah to Murray, which is being financed by eastern and local capital. Within this prosperous and progressive community live 30 doctors, most of whom belong to and compose the Calloway County Medical Society. Of this number, one belongs to the Marshall County Medical Society because of the convenience of attending. Four are eligible, and why they are not members is beyond our knowledge; two are not eligible, and are practicing in a very rough and otherwise unoccupied corner of the county. All others are active, and enthusiastic members. Our society meets monthly and has only one essayist whose subject is always assigned by the program committee, and is interesting and seasonable. The discussion is general.

One very interesting feature of our program is that of case reports. Any member who has an interesting or difficult case on hand reports the same to the society, and it is discussed by the members present. This we find interesting and helpful.

The society stands for personal nad public sanitation and hygiene, for inspection of public school children, and any and all other methods of preventive medicine, and hereby pledges its aid and support to any other organization whose aim and object are to perfect and execute these measures throughout this state.

CRITTENDEN COUNTY MEDICAL SOCIETY.

J. ERNEST FOX: We report 11 paid up members in the Crittenden County Medical Society. Eight are practicing physicians. Two are retired, and one resides in Illinois. We have 15 practicing physicians in the county, which leaves us 7 who are non-members. Fourteen of these are graduates of some medical college.

Our society has met six times this year. Six papers have been read before it. Four of these papers were sent to and published in the KENTUCKY MEDICAL JOURNAL. We have only 3 or 4 members who will prepare papers for our meeting. We have used every effort to get the non-members into the society, but it failed. We make no promises for the future, but will do the very best we can under the circumstances.

CLARK COUNTY MEDICAL SOCIETY.

C. G. STEPHENSON: Clark County Medical Society at present is in a state of lethargy, and it seems that nothing short of an earthquake will arouse us. I hardly know wherein the fault lies. We started oft at the first of the year in great shape, but quit at the quarter pole. The fraternal feeling is good. Our number is about the same.

No serious epidemics have prevailed. No malpractice suits have been instituted. Dr. Shirley has been removing hookworms for us and has done a good work.

I have such faith in the ability of our doctors and our recuperative power, that I would say, "not dead, but sleeping."

DAVIESS COUNTY MEDICAL SOCIETY.

J. J. RODMAN: During the 15 years of its existence the members of the Daviess County Medical Society have never shown more interest in the welfare of the society than at present.

Notwithstanding the hard times, it is our pleasure to report 70 members in good standing. This is the same number as last year, but since the last report one died, two lapsed, and three removed from the county, making a loss of 6. On the other hand, one delinquent has paid his dues, and five have been admitted as new members. Ten physicians reside in the county who are not members. We have invited them and even insisted on their coming in, but like those who would not attend the Master's Feast, they give various excuses, and I fear, like them, they will be "cast into exterior darkness."

The average attendance at our meetings is 37. The papers have been good and well discussed.

C. H. TODD (delegate from Daviess County Medical Society) made the following report:

During the past fall, winter and spring Daviess County was visited by a most extensive epidemic of variola without a single death; otherwise we have been free from all other forms of epidemics.

For the past three years all acute sickness has been steadily on the decrease, especially during the past five months, due in a measure to the prolonged drouth which destroyed vegetation. This condition is alarming, and should it continue, doubtless some of our general practitioners will seek new pastures in the near future.

We have our share of tuberculosis, which is due in a measure to local environment.

Friedmann, the German scientist, with his speckled back turtle serum, has come and gone. It seems we must turn from the therapy of inorganic or chemical agents, as tuberculin and the serums are not curative in slow wasting diseases and in tuberculosis.

I am glad to report that fraternal harmony prevails throughout the county, and this is due in a great measure to the splendid annual dinners served by the doctors of the county at the summer meetings of our society.

FRANKLIN COUNTY MEDICAL SOCIETY.

U. V. WILLIAMS: As delegate to the State Meeting, I beg leave to report for Franklin County the status of our society as follows:

1. In Franklin County there are 36 practicing physicians, only 21 of whom are pseudo-members of the county society, those only by virtue of having paid state and county dues for 1913.

2. There has not been a meeting of the society this year with a quorum present. There is, for some cause unknown to me as secretary, a sad and fatal lack of interest in the meetings of the society manifested for the past two years. It is a fact that the profession is overcrowded in our community, and many of our physicians seem to be no more than making a limited success financially and none overcrowded with work or well satisfied with collections.

3. One cause of complaint is the great prevalence of contract practice. There are some five or six societies that employ contract service at $2.00 per year per family. This is the limit. None pay more. The average number of individuals thus represented embrace at least 30 per cent. of the population and in every community; possibly another 30 per cent. of the population is either impecunious or regular dead beats: the remaining 40 per cent. are possessed of superior advantages as regards hygiene, proper housing, feeding and other prophylactic conditions, therefore the most healthy of our citizenship. No local physician will accept service as a contract doctor. These societies were therefore compelled to import a doctor to do the work for the whole number of societies. He has been ostracised by our physicians, no one consulting with him with the sanction of the society. The scramble for patronage causes jealousies and alienations in the profession that are most deplorable.

4. Our society last year inaugurated a scale of fees that would compensate to some extent for the increased cost of living, which we regret to say has not been rigidly adhered to, but to some extent we have succeeded in securing better fees.

5. For the past year or even more we have had a season of unusual and unprecedented good health. I state this as a fact from personal knowledge, having been in active practice in this city and county, continuously and uninterruptedly for more than half a century, and know whereof I speak.

6. The trend of modern science and the advance in the propagation of preventive medicine and the education of the masses do and should every year reduce the number of patients. It is the duty of the profession from a humanitarian standpoint to aid in this propaganda of preventing diseases and sickness, even though it is suicidal to his professional and financial success, and I am happy to state that the physicians of this county are lending their assistance to such diffusion of knowledge.

7. The marked decrease in the mortality of such preventable diseases as tuberculosis, diphtheria, typhoid and other febrile diseases, smallpox, scarlet fever, etc., is most encouraging and happy. When we mark the increase in the non-preventable diseases in the last two decades, we see that kidney diseases have increased 131 per cent., heart disease 57 per cent., apoplexy 84 per cent., cancer 79 per cent., and pneumonia 39 per cent., a still wider field is open before us in the seeking of knowledge, increasing the work of the scientist, bacteriologist and microscopist, to the general practitioner more work and less pay.

8. J. G. South, the President of our society this year, has been appointed alternate delegate, and of whose presence I hope to assure you. Myself at the age of 80 years, with increasing physical infirmities and the distance from my home to Bowling Green, I offer as my excuse of absence from this meeting, which I hope will be profitable and interesting.

FAYETTE COUNTY MEDICAL SOCIETY.

L. C. REDMON: We have regular monthly meetings. We meet on the second Tuesday. We always have a meeting, but sometimes the program is not what we would like to have it. On one occasion we had reports of cases. Our membership is 68, comprising practically all doctors in the county. We have several doctors practicing medicine, some of whom are not worthy of the title of practitioner of medicine, who to the outside profession seem to be eligible for membership in the Fayette County Medical Society, but on account of local conditions cannot be. From the standpoint of membership we are flourishing. Sometimes I think interest lags. Sometimes I think we are sick. Sometimes when men are assigned to read papers they fail to show up, but on the whole we have a very good society.

The secretary in his report spoke of two counties which failed to pay the extra assessment on State dues. Fayette was one of the counties, and this matter should be explained. Three years ago we raised the dues considerably, and this paying $3.00 to the State Medical Association necessitated another raise. At the time we did not think it best because we lost many members before when we raised the dues and it took a good deal of hard work to get them back, but since the raise in dues has been voted on by the House of Delegates, we will be able to get in line with the rest of the societies.

We maintain a library. We have 19 medical journals that come to the library, weeklies and monthlies. These journals are bound and form a nucleus for an excellent library.

We have a medical milk commission composed of 5 members of the Fayette County Medical Society, and we have agreed to pass on one dairy that gives certified milk.

All told, we have a good society, and we hope to keep it up to the present standard.

THE PRESIDENT: Dr. Blackburn is here, and we will ask him to present his report as Chairman of the Committee of Arrangements.

J. H. BLACKBURN: There are several things we have arranged for. In the first place, the biggest event, so far as we are all concerned, will be the barbecue on Wednesday afternoon. I fear we will have to cut the scientific proceedings short in order to get up there at 4 o'clock. The barbecue will be held on Reservoir Hill.

To-morrow afternoon (Tuesday), from 4 to 6, the wives of the physicians of the City and County will entertain the visiting ladies at Normal Heights. Automobiles will convey the visiting ladies there.

The Y. M. C. A. has extended an invitation for the members and guests to visit their institution and to make themselves at home.

Dr. J. O. Carson has extended an invitation to the members and guests, and states that he will receive on Wednesday evening for the visiting physicians and their wives at his residence.

Wednesday evening the Doctors McCormack, on behalf of the Warren County Medical Society, will give a smoker at their residence.

A more extended announcement will be made of these things to-morrow.

Mr. Masters, the moving picture man, has left a ticket for each member of the Kentucky State Medical Association and their lady friends. These tickets can be had at the registration booth.

If any of the members play golf, we will be glad to have them come out to our golf links.

THE PRESIDENT: It is a great pleasure, I am sure, to each of us to have these announcements made, and an added pleasure if we analyze them to find that we are meeting in a most elegant church; that our exhibits are held in its basement, and that we are invited to the Y. M. C. A. In fact, every arrangement made is in perfect harmony with the strictest religion. It is within the memory of many of you here when this was not so. Are we getting better, or are we getting the people to realize we are good? We thank Dr. Blackburn for these announcements. No doubt there will be a good deal of expense connected with these things, and when the time comes these bills of expense will be gotten together and presented to the House of Delegates before we adjourn; otherwise we want to pay them and pay them without it, but it is better to have the bills presented to the House of Delegates first and approved for payment.

HARDIN COUNTY MEDICAL SOCIETY.

J. W. O'CONNOR: The Hardin County Medical Society meets in Elizabethtown on the second Tuesday of each month. Thus far in 1913, we have held seven meetings. The January meeting is omitted on account of the inclemency of the weather.

The society has 25 members in good standing; two superannuated. There are five doctors in the county who are non-members, but are eligible.

There has been no malpractice suit entered during the past year.

HENRY COUNTY MEDICAL SOCIETY.

EVERETT MORRIS: The Henry County Medical Society was organized in 1902, and from that date until the present time has had its ups and downs, perhaps more downs than ups. However, we are still above terra firma, and meet each month in Newcastle, the county seat.

A. P. Dowden is our President and Owen Carroll, of Newcastle, Secretary-Treasurer. During the heated season this summer there was very little interest, but a visit from Councilor Aud created more enthusiasm among our members.

The society has in the past encouraged fraternalism, honest dealings with brother physicians, and a high class service with a fee commensurate. It discourages fee splitting and commercializing. The latter, however, is creeping into some of our doctors, while the former is not practiced to any great extent. Competition is keen among our medical men as only six counties in the State have fewer inhabitants to each physician.

The people of Henry County appreciate the medical society and are beginning to expect their family physicians to attend the meetings. The society has the cooperation of the county board of health, and in the publication of public health information the county papers have rendered valuable assistance in the campaign against preventable diseases.

The medical profession of the county is prosperous and many are giving their patients advantages of modern equipment.

In 1911, there were 16 members; in 1912, 18, and in 1913, 19. Total number of physicians in the county, 31; population 13,716; population for each physician, 448, and total membership 19. Total non-members, 10. Non-members eligible to membership, 10, and non-members ineligible to membership, two.

The Henry County Medical Society wishes to approve the management of the affairs by the retiring president of the Kentucky State Medical Association, and to congratulate it upon the selection of its president- elect. It also approves most heartily the work done by its secretary and his co-laborers.

HARRISON COUNTY MEDICAL SOCIETY.

J. E. WELLS: Harrison County Medical Society has a membership of 22, having lost 5 members during the past year, one by death, one by removal, both of whom were very active members. Three were dropped for nonpayment of dues. We have gained one new member.

Our program is made out one year in advance, in order to give the essayists plenty of time to prepare their papers and the members to prepare for the discussion. The papers during the past year have been excellent ones, and the discussions have been entered into by most all the members.

Our meetings are held on the first Monday evening in each month. We have missed but one meeting in 10 years, and that was on account of our Chautauqua, which was in progress on our regular meeting night.

Our average attendance for the past year was 17. There were 18 papers read, four public meetings held, and 24 clinical cases reported. During the last school year the members of the society delivered stereopticon lectures at the different schools in the county on the prevention of tuberculosis, typhoid fever, etc.

Last year during an epidemic of diphtheria the members of our society volunteered, without pay, to inspect the schools, which was kept up every morning for six weeks. The parents of the children were notified as to the condition of the teeth, tonsils, adenoids, etc.

The county and city health officers are doing good work and have the support of all the members of the society and the best citizens of the county.

The fiscal court has made an appropriation for the hookworm investigation, and we will have our good friend, Dr. Shirley, with us during this month.

During the past summer an Indian Medicine Company blew into our city and was doing a land office business until we had them indicted and fined, and they disappeared as suddenly as they appeared.

The members of our society are all on the best of terms, and there is a feeling of brotherly love existing in our medical fraternity to an extent that I have never witnessed in any county that I have had the pleasure to visit, either professionally or socially.

While the Harrison County Medical Society is not the largest in the State, I really believe it to be the best.

HENDERSON COUNTY MEDICAL SOCIETY.

W. A. POOLE: The Henderson County Medical Society begs to submit the following report for the year 1913.

Our meetings have been held regularly twice a month, except July and August, and twice when we failed to have a quorum. The attendance generally has been good, and some very excellent papers have been read and discussed.

We were very unfortunate at the very beginning of the year to lose by death our President, Robert H. Moss, one of the most learned and most lovable men in our profession. He had been practicing medicine in this county for 22 years, and had always been a great worker in the medical society.

Later we lost by death D. C. Smith, a civil war veteran, and a very honorable gentleman, who had practiced his profession since 1861.

We have 38 members in good standing, with 3 delinquents.

B. G. Neary and G. F. Jones, of Evansville, and G. M. Royster, of Tennessee, have joined us since the first of the year. They are all men of high type, and we are sure will prove very helpful additions to our society.

We have had two joint meetings with the anti-tuberculosis association.

On Easter Sunday our efficient State Bacteriologist, Lillian H. South, delivered a splendid lecture which was illustrated by lantern slides. This lecture was very interesting and instructive, and the doctors as well as the lay people who attended learned some things about hookworm and other preventable diseases they will not soon forget.

We had one other special meeting when Dr. Floyd and Dr. Linthicum, of Evansville, gave us some good papers.

Our county board of health, through its efficient health officer, Dr. Ligon, was able to secure free antitoxin for indigents during the year.

Several of our doctors read papers before the Teacher's Institute, and as a result resolutions were adopted favoring the erection of a county tuberculosis hospital, having the drinking water used at schools tested by the State Bacteriologist and keeping the building and grounds in a sanitary condition.

Our meetings are held at the Y. M. C. A. building, and our members often spend an hour in a social way. We had our annual banquet on December 26, with 27 of our members present, and this was as usual a most enjoyable affair.

One item not incorporated in our report is a malpractice suit against one of our members, who was in our courts in May, and judgment given against him for $2,105. That case will be appealed this fall. We are very anxious that the decision of the lower court be reversed.

HOPKINS COUNTY MEDICAL SOCIETY.

A. O. SISK: We have 56 physicians in our county, 30 of whom are members and 26 non-members. Two members moved away, and one of the non-members has died. Two physicians have retired from practice. We have one honorary member. Thirteen of the 26 non-members since 1907 have been members of the society and have been suspended for non-payment of dues. Why they allowed themselves to drop out I do not know. Should they remain we would only have 12 non-members in the county to-day. We have not been able to secure a single paper this year. We have had a number of clinical cases presented and have had a round table discussion, but beyond that we have done nothing.

Our society has adopted the resolutions adopted by the American Medical Association and the Southern Medical Association in regard to fee splitting. As members of our society we condemn it severely.

KNOX COUNTY MEDICAL SOCIETY.

C. L. HEATH: We have 15 members in the Knox County Medical Society this year. According to the secretary's report, he makes one more than we had credit for last year. There are only two doctors in the county eligible to membership that are not members, and two doctors in the county that have retired from practice. There are two doctors in the county, members of other county societies, doing a mine practice. During this year, or since the last report from that society, we have had eight meetings, two regular meeting days. There was not a quorum present, perhaps on account of the political primary we had down there. Some of our members were candidates for county offices. We have had several papers read and discussed. We have not had as good a class of papers as we usually have, on account of some of the principal workers along that line being engaged in other work. Dr. Lock, our most distinguished member, being engaged in sanitary work and out of the county nearly all the year, has not been able to contribute his portion to the program that he usually does. However, we have been getting along very well. We have not quite as much brotherly love as we should have, but as a whole we are progressing, and I think getting along in first class shape.

LAUREL COUNTY MEDICAL SOCIETY.

H. V. PENNINGTON: The Laurel County Medical Society is in fairly good condition. We have 24 registered physicians in the county, three of whom have practically retired from actual practice on account of long years of service or poor health. Of the 20 active practitioners, 17 are reported as members of the county organization. We have regular monthly meetings, but the attendance will not average more than 50 per cent. of the membership. We have added six new members during the year, but have lost one or two members owing to prolonged illness. The scientific work done by the society has not been fully up to the standard, but on the whole it has been fairly satisfactory.

LOGAN COUNTY MEDICAL SOCIETY.

WALTER BYRNE: The Logan County Medical Society sends its greetings, and regrets that its report cannot show an increase in membership over last year. Our membership still stands at 26. While some members come and some members go, we hold our 26. One member moved to another county, one failed to pay his dues, and we dropped him. So our hope for 28 members eluded us again. There are still six doctors outside the fold in our county.

The interest in our meetings does not improve. I am afraid we are but a "paper organization," as our worthy State Secretary names them. Six or eight of the 26 members do most of the work, the 16 or 18 others receiving all benefits accruing from membership, but rarely attend a meeting.

Cannot the House of Delegates formulate some plan to persuade attendance at least once a year?

LESLIE COUNTY MEDICAL SOCIETY.

R. L. COLLINS: The Leslie County Medical Society was organized since the last session of the State Medical Association with the two doctors of the county together with two more from the borders of adjoining counties.

These doctors have been doing work in the form of public meetings at the county seat along the line of the prevention of preventable diseases. All the profession in the county belong to the county society and through their efforts we have secured an appropriation that enables the State Board of Health to hold hookworm clinics, and the Governor is sending a man to take care of the eye cases, and thus we are hoping for great things for Leslie County.

MARION COUNTY MEDICAL SOCIETY.

GEORGE G. THORNTON: The Marion County Medical Society is composed of 22 doctors, two of whom have retired from practice and are honorary members. There is one other doctor in the county who is eligible, but who has never placed his membership with us. Our members are hard working and ethical, and stand for all of the advances made by a united profession. However, I am sorry to say, that many of them, when it comes to society work, act as though they believe in letting "George do it." It is but fair to say that we have some who are ever ready to do anything reasonable in society work, and others who always seem to have a bad case of indisposition. We are supposed to meet six times a year on every alternate month, and up to this date in 1913 we have already met twice, or possibly three times, with a small attendance each time. So far as I am able to observe, when we have our meetings most of the membership seems to act on the hypothesis that the other members will not be out; therefore, it is not worth their while, hence the small attendance.

MONTGOMERY COUNTY MEDICAL SOCIETY.

J. F. JONES: As Secretary, I submit the following for the Montgomery County Medical Society to the State Medical Association of Bowling Green for the annual meeting of 1913:

We have enrolled 19 members, a gain of 2 over 1912. We have lost one (G. N. Cox) of our old members, who dropped out this year.

We failed to have a meeting in September, 1912, the only failure for the year. The smallest attendance was five, and the largest 10 at any meeting.

During the year we missed one meeting, and had five papers read on the following subjects: Immunity, Tuberculosis, Pellagra, Hookworm, and Syphilis.

The following subjects were assigned, but the papers were not written: Pneumonia, Acute Anterior Poliomyelitis, Treatment of Rheumatism with Phylacogen, or Modified Rheumatic Vaccine, The Therapeutic Juices of Thyroid Extract.

Our greatest trouble seems to be with some of our members who will not write papers when their time comes. They do not come to the meeting. If the Kentucky State Medical Association has any physic for this trouble, send Montgomery County a good supply. I thank you for assigning me to read a paper before the State Secretary's meeting, but I cannot come. Very likely you will say, Jones, you need a big dose of the physic you were just writing about, and we will send one especially for you as you seem to need as big a dose as any other fellow needs.

NELSON COUNTY MEDICAL SOCIETY.

HUGH D. RODMAN: It is a pleasure to me to be able to report to this House of Delegates that the medical profession of Nelson County is O. K. We have neither lost nor gained in the number of our county doctors. We started in this year with 19 doctors in our county, and we have 19 to-day. These 19 will compare favorably, as gentlemen and physicians, with the doctors of any other county in the State, Warren not excepted. Our doctors are up-to-date readers and thinkers, not store-door politicians and box-whittlers. Each physician in the county is a sanitary adviser and the guardian of the health of the whole people.

There is one practice in vogue with our doctors which I believe is a good one. It is this: when we have a serious or novel case, we call up some one or two of our county doctors, and report the symptoms and advise as to treatment and probabe results. This is a great source of friendly feeling and should be practiced more than it is by our profession.

Our county society meets quarterly and we have held three meetings since the last State Meeting. At the December meeting we had two good papers, both of which found their way to the JOURNAL. It will be noted that at this meeting we deviated from the ordinary custom of having only physicians to read papers at our meeting. One of our neighbor dentists was invited to read a paper, and responded with an excellent paper on "Nitrous Oxide and Oxygen in Dental Surgery."

Our March meeting was on a very inclement day and was poorly attended. We had only some informal discussions. The June meeting was a good one. Two good papers were read, and several reports were made on the use of serums in the treatment of pneumonia, and serums and vaccines in the treatment and prevention of typhoid fever. This was one of the best meetings our society has ever held. Our fourth meeting should have been held to-morrow but has been postponed for fear that we would break up this meeting.

In referring to the report of the Business Manager of the JOURNAL, it is seen that Nelson stands out boldly and is doing more than her full share in the work of making the JOURNAL the success it is. In the relative per cent. of members in the society to the number of doctors in the county we stand first, only five other counties being our equals. Secretary McCormack says in his report that 100 per cent. of our doctors are members of the county society. I say that 105 1-4 per cent are members, as we have 19 doctors in the county and 20 members in the society.

Nelson County has contributed more than her full share of good reading to the JOURNAL. The Business Manager of the JOURNAL reports that 269 original communications were published this year. This number proportioned among the 119 counties would be 2 1-2 papers to the county; Nelson furnished 4, and has 2 good papers awaiting room in the JOURNAL. I expect that I have told you enough, but there is one more item of interest that I want to tell you about.

We have had one doctor in our county who persisted in remaining outside of the true fold. He even resisted the silvery tongued eloquence of a McChord and a McCormack, but finally yielded to more blunt argument and came with us this year. You know that St. Luke says, "I say unto you that even so there shall be joy in heaven upon one sinner that doth penance more than upon ninety and nine just who need not penance."

So also I say to you, there is more joy in Nelson County upon this one sinner doing penance and coming into the true fold than upon the 18 who were already with us.

PENDLETON COUNTY MEDICAL SOCIETY.

H. C. CLARK: If the Secretary has not sent in a report I will make a verbal one. Since the organization of our county society we have not slackened our speed. I think we have gained. We had 22 members until last year, one died, and one removed. We have 19 members now in good standing. We have one member who has been a member of the State Society since 1887. We have experienced a peculiar condition in our society, and what I say will apply to every member of the society, namely, I am a better doctor than I was when the organization began. We are in fine condition socially. I was sick in March, and every doctor in the county came in to see me. There is a 'phone in every doctor's house in the county. When my daughter was sick every doctor in the county 'phoned to me in regard to her condition. Some of them came to see her, and particularly those who did not 'phone.

We meet every month. We have an all-day session and an elegant dinner, and do not separate from morning until we adjourn for anything else unless it is an urgent call. We have short papers and good discussions. We have four doctors in the county who are not members, and I do not know whether they are eligible or not. Bad habits have destroyed their usefulness if they had any. We feel encouraged, as I know we have done excellent work. One of the features in our society that has been most beneficial has been reports of cases, and we keep track of patients as long as three months and discuss them from time to time. That has been one of the principal sources of our great success. We have been remarkably successful. We have not had our councilor with us; we never had but one councilor, and that was Dr. Wells, who started us off.

PIKE COUNTY MEDICAL SOCIETY.

H. C. BEVINS: Shakespeare has said, "Some men are born great; others achieve greatness, and still others have greatness thrust upon them." In the latter class, I find myself at this time, having received appointment as delegate to represent my county society in this learned body since leaving my home county to attend this meeting. My story is a short one. We physicians in Pike County are not doing our full duty in the way of society work. We are supposed to meet monthly, but I am sorry to say we are not in the habit of holding more than three or four meetings a year, and even these are not as largely attended as they might be.

We have about 10 or 12 members enrolled in our society, all of whom are hard working, progressive men. But our county is so large and many of our membership, as myself, are located in remote and almost inaccessible parts of the county, and for that reason we cannot attend regularly. Petty jealousies and make-believe enmities contribute largely to our troubles also.

There are almost an equal number of unorganized men in the county, the majority of whom might be classed as desirables, the others not.

Our councilor, Dr. Kincaid, was with us in June, at which time a pellagra clinic was supposed to be given by some of our greater lights which failed to materialize. But without this, the society, I am informed, had a good meeting at this time. Two physicians are now candidate for the county judgship in our county, one a Republican, the other a Democrat.

From this you will see we are taking an unusual interest in politics, as was so earnestly urged upon physicians of this Association at the Lexington meeting in 1910.

I hope this report will not cause you to class us in the apt words of Dr. McCormack as a "paper organization."

OLDHAM COUNTY MEDICAL SOCIETY.

R. B. CASSADY: The Oldham County Medical Society sends greetings to all the societies in the State and calls down the benedictions of heaven upon this noble assembly of doctors.

We believe in fraternity and the greatest possible service to mankind. We pledge our support in every good work promulgated by this august body.

The feeling of cooperation and good-fellowship in our county is splendid. Providence in his great mercy has passed a measure of prosperity to each of us. Some of us are riding in automobiles and feel that a degree of luxury has come.

While the year has been a busy one for the doctors, in a general way conditions of health have greatly improved.

Sanitation and hygienic conditions have assumed a high standard in Oldham county, and the profession and county health officer hope to accomplish many things during the next twelve months. The two splendid public health meetings this year have quickened the public conscience and we bespeak greater things for Oldham. Our motto is, "every doctor a brother, and every brother a paid-in-full member of the society."

On December 24, 1912, the Oldham County Medical Society elected the following officers for the year 1913: J. H. Speer, President; C. N. Goldsborough, Vice-President, and E. D. Burnett, Secretary-Treasurer.

J. L. Quesenberry, R. B. Pryor, and R. B. Cassady were elected censors to serve one, two and three years respectively.

R. B. Cassady was elected delegate, and J. A. Freeman alternate to the Kentucky State Medical Association for 1913.

A resolution fixing the first Thursday in each month as the regular meeting time was adopted at the December meeting.

The following is the monthly attendance of Oldham doctors to date: December, 6; February, 5; March, 3; April, 5; May, 10; June, 8; July, 5; August, 6.

During the year quite a number of distinguished visitors have been with us, namely: Drs. A. T. McCormack and W. L. Heizer, of Bowling Green; Everett Morris, Sulphur; and Drs. J. F. Taylor, H. H. Grant, B. F. Zimmerman, E. E. Owen, G. A. Hendon, P. F. Barbour, J. R. Morrison, John D. Richardson, Jr., William Cheatham, Louis Frank, J. G. Sherrill, J. T. Windell, G. S. Hanes, and J. A. Allen, all of Louisville.

During the year 1913, the sum of $25 has been paid in for membership fees, thus enrolling 10 paid-up members. There are five physicians in the county who have paid no fees. There are three in the county who have not attended any county meeting.

We find that the total attendance of Oldham doctors for the eight meetings held is 48, an average attendance of 6.

Some splendid papers have been read before the society during the year. Unusual interest has centered around many clinical reports. A well planned scientific program has been carried out each month. Among the subjects discussed are the following: In February, Appendicitis; in March, Hookworm; in April, Public Health and Preventive Medicine; in May, Symposium on Typhoid Fever; in June, Tuberculosis and Specific Urethritis; in July, the Kidney; in August, Summer Diarrhea and Prophylactic Measures in Small Children.

The September program concerns gastric disorders.

The most notable meetings were the two on public health, held in the high school auditorium at La Grange.

On February 12, A. T. McCormack carried off the palm in his illustrated lecture to the public on hookworm, syphilis, gonorrhea, etc. He was ably seconded by W. L. Heizer.

On April 18, a symposium on public health was held. A number of representatives citizens were on the program. The doctors were in the vanguard. Drs. Goldsborough and Cassady sounded the bugle call of the fight.

The society is indebted especially to Everett Morris for a splendid paper on "Early diagnosis in Tuberculosis," read before our June meeting.

By nature we are social beings. The fires within the breast that yearn for goodfellowship, friendship and love should ever be fanned into a warm glow. Our doctors foster this feature of our everyday life by opening their homes and leading us to the festal board.

On February 12th at the Park Hotel in La Grange, E. D. Burnett gave a dinner for the Oldham County doctors to meet A. T. McCormack and W. L. Heizer.

On May 1st, C. N. Goldsborough and wife gave an elegant fish dinner in their home at La Grange for the profession.

On June 5th Dr. and Mrs. J. A. Freeman, Crestwood, entertained in their home with an elaborate 1 o'clock dinner. Several distinguished visitors were present.

On August 6th, the wives of the doctors gave a picnic dinner on the beautiful lawn of the Crestwood Baptist Church. At the same time some 10 of the Louisville profession were entertained.

On September 11th, Drs. Speer and Quesenberry propose to give a dinner in honor of the society at the Crestwood Hotel.

The social affairs have brought joy to our hearts and stomachs and make for good comradeship among all the doctors. They have our full endorsement, and we recommend the same to any cold, indifferent societies.

Our load-star for the coming year is one hundred per cent. in organization, attendance, fees, scientific work, public health and social intercourse. Can you beat it?

SIMPSON COUNTY MEDICAL SOCIETY.

W. A. GUTHRIE: The Simpson County Medical Society is not doing the work that it should. We have about 18 or 20 doctors in the city and county; about two-thirds of these pay their dues, and about 5 of them attend the meetings of the society, so you see that a number of them who pay dues do not attend the society or take any part in its work. We have tried in every way possible to get these men interested in the doings of the society, but have been unable to do so. They are determined to stay in the same old rut until death. I hope the time will soon come when the people will see and know that the medicine and surgery of to-day are quite different from that of 12 months ago.

TAYLOR COUNTY MEDICAL SOCIETY.

J. L. ATKINSON: The Taylor County Medical Society has lived through another year, but is not as active and robust as we would desire. We are at peace with ourselves and the world, but our vitality has been somewhat lowered, possibly by the long continued drought—probably our own lassitude. We have held a few good meetings and have had some instructive papers and discussions. We have lost two members from the non-payment of dues which losses we could not recoup by acquiring new members for lack of material. This loss is a very large one to us because of the value of the members to the society, and because we are so few in number. We have held our position with 11 members, for several years, but our number has dropped to 9 this year.

The secretary has done what he could to keep up the vitality of the society, but he is not greatly encouraged by the results of his efforts.

WARREN COUNTY MEDICAL SOCIETY.

B. S. RUTHERFORD: The Warren County Medical Society meets once each month. We have an attendance of from 15 to 20 at each meeting. The physicians from all parts of the county attend and take an active part in the proceedings of the meetings. We have been following a general outline of the postgraduate course, and in addition we have reports of cases and a general discussion at each meeting. Our frequent meetings have fostered a feeling of congeniality and fellowship which universally prevails among our physicians. We listen to well prepared papers and discussions which have been highly instructive.

We regard our county society as a source of education which is of inestimable value.

In addition to our county society, we have organized a tri-county society, including the counties of Warren, Simpson, and Logan, in which we have a meeting in each of the three counties each year. At this meeting the physicians of the three counties usually attend with families, where we have an all day meeting in which we not only enjoy the proceedings of the society, but the hospitality of our neighboring county society. As members of the county society, we wish to extend a hearty greeting to the members of the Kentucky State Medical Association and their families and a most cordial welcome.

WAYNE COUNTY MEDICAL SOCIETY.

J. F. YOUNG: Wayne County Medical Society reports that there are 16 doctors in Wayne County who are graduates of some medical school, or in some way are legally qualified to practice. Two of these are not in active practice. There are two men in active practice who are not legally qualified. Nine members of the society have paid their dues through its secretary. Eight of these members paid $3.50, while one member paid $3.00. The other seven have not sent in their membership fee to the secretary. Three of these have never visited the society, while the other four have not met with us for some two, three or more years.

Our society does not meet very often, only twice this year. It would be hard for me to tell you just why we do not meet.. The truth is, we are all at fault, for we do not take that interest which is necessary to keep a live working society. So far as I know, the members could come to our meetings almost every time without very much loss of time or money.

There are no bickerings or misunderstandings among the doctors of Wayne County to keep us from having a wide awake and progressive society.

Each is trying to live up to a high standard of morality and good citizenship. We meet each other as business and professional men in a business and professional way, each recognizing the other's rights and the rights of our patients, and try to stand before the people in a way that they may know we are men worthy of their confidence.

There are so many doctors in Wayne we do not depend wholly on the practice of medicine for our ready cash. Some have put their savings into the oil business and have come out with a good bank account; others have been speculating in real estate and now sit under their own vine and fig tree, while still others are farming and add to the world's supply of food for beast and man.

While I am pleased to speak so well of the men who are my brothers in this great work of banishing pain, relieving the sick, and rolling back the dark clouds from many a home, there is always some one or more who look at the great work from another viewpoint and do not come up to the high standard set by the State.

Wayne county has never been free from the men who are not qualified. Men have practiced medicine in open violation of law all these years.

This should not be, for each man who takes charge of the sick and administers drugs should know the wonderful structure of the human body, and the power of each drug he administers and its indications. He should thoroughly understand the disease he is called on to combat. No man can do these things unless he has been schooled in these matters. A little learning is dangerous, and anyone who attempts to treat the sick and tampers with human life, using the powerful alkaloids we now have, without first mastering the subject in its many ramifications, is a dangerous man. In this age of advancement and medical schools and universities, no citizen need accept the services of anyone until he has thoroughly qualified. Perhaps we as doctors have neglected a part of our duty in Wayne county. If we had been doing our full duty as leaders of public thought, no one could now expect a call to treat the sick until he has thoroughly prepared and complied with the law. As it is now, a lot of patent dope is consumed each year and the unqualified get a hearing.

THE SECRETARY: In submitting these reports from the county societies, I feel that some reference looking to the continued improvement of many of the societies should be made at this time.

We have 63 county societies out of 119 that are holding regular meetings, doing regular work and are delivering the goods, but the rest are not doing much. It is important that these others should be activated, and I believe the most effective way by which they can be activated is by following the example set forth in the reports that have been read.

The secretary of the American Medical Association has told us repeatedly that these reports giving a standard of comparison between the work done by the various counties are the best he has ever heard or read in any other state medical association. What we do here is of relative importance. It does not do your county a bit of good to have this annual meeting—it may do you good—but it does not do the county society any good unless you are having meetings and doing the work that is mapped out for you to do. The active county medical societies are the real things. We are just an accumulation of county societies. The county society does the real work. If you could be present at meetings like those in Harrison, Pendleton, Nelson, Henderson, and Christian County, where remarkable preventive disease dispensaries have been held, those of you who are not taking part in such meetings are being deprived of the wonderful stimulation of the greater and broader light and methods which the modern physician uses in combatting sickness. I wish you could have been present at the meetings of the Christian County Society and could have seen, as those of us who had the privilege of being there could see, the great barbecues where from 400 to 1200 people spent the entire day listening not to one but a series of lectures and addresses and demonstrations as to how better health could be obtained in the community; where microscopists were examining sputa and specimens of feces and blood that were brought by patients, doing in the largest and best sense of the word the modern scientific work of medicine. Such work is being done in Christian County successfully and thoroughly because in that county they have one of the best medical organizations in the State. In Harrison county we have no anxiety as to the result of a similar campaign to start next week. We know because they have had an active society for the last 5 or 6 years and have already gained the confidence of the people in that county. It is among the very best county societies in the State. Great things are being done for the welfare of the people, and the people are responding in a way that is difficult to believe for those who have not seen these responses. We expect to see a great awakening, and many of the children and men and women are living examples of the work done by the county medical society—a work heretofore impossible of accomplishment because of lack of organization. (Applause).

THE PRESIDENT: This completes the work as given by the committee on scientific work up to this time.

Is there any miscellaneous business that should come up at this time? There seems to be none, and without objection we will stand adjourned until the evening session, at which time the county secretaries will meet.

SECOND SESSION.

The House of Delegates met at 10 P. M., and was called to order by Vice-President Hendren.

The first thing in order was the report of the Medico-Legal Committee, by John J. Moren, Chairman.

Dr. Moren presented the report of the Committee as follows.

FIFTH ANNUAL REPORT OF THE MEDICO-LEGAL COMMITTEE.

As Chairman, I have the honor to submit the following as the fifth annual report of the cases referred to and the results accomplished by the Medico-Legal Committee. The past year has been rather a busy one, more so than in any other previous year. We had a total of 18 cases reported to the committee. Two of these were declined, one a non-member, and one a counter claim which will be referred to later.

In my last report I referred to the seriousness of the unjust cases reported during 1912. Two were tried in 1912, resulting in one verdict for the doctor and one hung jury. During 1913, two have been tried, resulting in verdicts for the doctors, one was dismissed after preparation for trial, one was adjusted in the magistrate's court, another was tried, and I regret to say, the verdict was rendered against the doctor. However, we hope and expect to have this verdict reversed and feel confident that we will succeed in the next trial. Six cases are still pending from 1912.

Of the cases reported in 1912 we have succeeded in having four dismissed after preparation for trial; one case was compromised at the request of the doctor; one case was adjusted satisfactorily to the doctor, by other attorneys. Altogether making a total of ten cases (4 in 1912, 6 in 1913) disposed of during the past year, which is more than double the work of any previous year.

The following is the annual case report and present standing of all cases:

In 1909, 5 cases, 1 dismissed by the court; 1 dismissed after preparation for trial; 3 dropped.

In 1910, no cases.

In 1911, 11 cases, 1 refused, non-member; 2 refused, not malpractice; 2 trials, both won; 1 adjustment of claim in magistrate's court; 2 now pending; 3 dropped.

1912, 13 cases, 1 refused, non-member; 5 trials, 3 won, 1 hung jury, 1 verdict for plaintiff; 1 compromised; 1 dropped; 6 pending, including 1 hung jury and 1 verdict for plaintiff; 1 dismissed after preparation for trial.

In 1913, 18 cases, 2 refused, 1 non-member, 1 counter claim; 4 dismissed after preparation for trial, 1 compromised at request of doctor; 2 suits being handled by other attorneys; 1 compromised at request of doctor by other attorneys.

The majority of the remaining 8 cases will, to my opinion, prove to be only threats and I hope not materialize.

Making a total of forty-seven cases in 5 years of which, 1 dismissed by court; 6 declined, mostly non-members; 7 tried, 5 won, 1 hung jury, 1 verdict for plaintiff; 6 dismissed after preparation for trial; 1 adjusted in magistrate's court; 1 adjusted after preparation for trial; 2 compromised; 2 being handled by other attorneys; 2 pending from 1911; 6 pending from 1912; 7 cases reported in 1909, 1911, 1912, have been abandoned.

The majority of the remaining 8 cases in 1913 will, to my opinion, prove to be only threats.

Percentage: Our results so far show, 17 per cent go to trial; 17 per cent dismissed after preparation for trial; 32 per cent. pending, (excluding 1913); 30 per cent dropped, (excluding 1913).

Cost: 1910, $592.00; 1911, $450.00; 1912, $819.15; 1913, $1,260.40. A total of $3,121.55.

The range of cost for an individual case has been from $24.40 to $328.50. One or two have been dismissed at a nominal expense. Counting all cost for a number of cases, actually contested and handled by the Committee, we can place the average expense at about $125.00 per case.

ATTORNEY.

At the last meeting your committee was empowered to exercise their judgment in regard to sending the general counsel to cases out in the State. During the past year Mr. Hines has personally appeared in the Federal Court in one case, and conferred with the local counsel in three other cases, but did not appear at the trial. He believes that it is better to rely upon local counsel, particularly if they are good attorneys.

In the case resulting in a hung jury, local circumstances influenced the verdict of the jury. From what I can gain it was not due to the inability of the local counsel, for the doctor as well as the attorney for the plaintiff admit that our attorneys are the best in that section of the State.

We were particularly unfortunate in the case where the verdict was rendered against the defendant. Many factors can be brought forward to explain the situation; however, no one can be especially blamed for the results. We know of no good reason for such an unjust verdict. Mr. Hines conferred with the parties in this case and thought at the time that everything was being well arranged for the trial.

INCORPORATED INSTITUTIONS.

Your committee was instructed to adjust the fees for incorporated institutions, and after conferring with a few of the doctors who have charge of institutions, Mr. Hines, as well as myself, thought we could not conscientiously attach an additional fee upon these men. So far we have not had a case brought against a corporation and we hope none will occur, but should we have such a case I am perfectly willing to assume the responsibility that all will be satisfactorily arranged, for the fact that I am personally in good standing with the doctors of these institutions and know that we could come to an amiable adjustment under all circumstances.

COUNTER CLAIMS.

The question of counter-claims has not troubled us in the past year. One case occurred that was so absolutely ridiculous that there seemed to be no danger in the case at all I told the doctor our position in the matter and assured him that he was protected in case that he was personally attacked, and advised him to continue with his regular attorney. He acted accordingly and succeeded in collecting the full amount of his bill, and the party announced publicly that the suit had been filed under misapprehension, and that there was no ground for a suit at all.

We are satisfied that no fixed rule can be applied to any individual case. We are confronted with different positions in the majority of the cases, and I feel that the House of Delegates acted wisely in leaving this question to the judgment of your committee. We have not formulated any rule to govern our positions in these cases. We are influenced by the circumstances and nature of the case. By adopting such a policy we can do our duty in protecting the funds of the society, as well as our duty to see that the member is properly protected according to a broad interpretation of the purpose and intentions of this committee.

CAUSE FOR DANGER.

The following are brief statements of the supposed cause for damages. It will serve to give you an idea of the class of cases which are brought to our notice, and also show that our work is no easy task:

Fracture: 11 cases, all presenting different phases.

Sponge in abdomen.

Failure to quarantine in contagious disease.

Operation without consent.

Wrong axis in glasses.

Failure to cure diarrhea.

Failure to find and remove splinter of wood.

X-ray burn.

Miscarriage treated as "flooding."

Nail wound in foot.

Wrong medicine in eye.

Relapse of typhoid from medicine.

Death of stillborn child.

Amputation.

Gauze left in uterus.

Death from frontal sinus disease.

Failure to label medicine.

Suicide.

Two cases of detaining insane patients in institutions.

Failure to recognize dislocation in fracture case.

Hernia following operation.

Death in alcoholic patient.

Injury to eye in removing foreign body.

Dislocation.

Death of patient before doctor arrived.

In other words they seek damages for supposed ill effects from anything from puncturing the sole of the foot up to a diseased cerebral cortex.

RECOMMENDATION.

Your committee feels that the doctor should take more interest in trying to secure a minimum attorney's fee. After the suit the doctor feels kindly towards the lawyer and says nothing about our limited funds. Because we are an incorporated body it does not imply that we are a wealthy body of men, and we feel that a little friendly talk with the lawyer might cause him to start with a minimum instead of a maximum fee. If so our attorney would have less wood to chop. It is not very easy for a professional man to ask another to reduce a fee, you as doctors know that to be true. We ask you to remember this and speak to the local counsel when employed.

INCREASE IN NUMBER OF CASES.

You may wonder why we have had so many cases. The only explanation which I can give that seems at least plausible, is that suggested by Mr. Hines, namely, the evolution of the practice of law. It is a new field that has not been worked as much as other sources of cause for damage. We should be alert and fortify ourselves against this tendency of the times by the thoroughness of our work and secure as far as possible proof of such work. In plain words "prepare for war in time of peace." While the evolution of the practice of law explains the tendency of liability of suits being brought, just remember that careless remarks by the doctor are frequently exciting causes.

GENERAL COUNSEL.

I wish to express to you my appreciation of the work of our general counsel, Messrs.

Hines & Norman. They have been faithful, conscientious, and never too busy to attend to our cases. Mr. Hines has been particularly liberal with his time, he has been consulted freely, and on many occasions has given his advise free of charge. He is interested in our cause, and looks upon this work as a duty to help protect a brother profession from unscrupulous attacks. In our selection of a general counsel we might have selected a better orator, but we could not have found a better lawyer.

In conclusion permit me to say that your committee has endeavored to do its best, under all circumstances, to carry out the plan and purpose of the medico-legal committee. We have been liberal in our interpretation of the duties of the committee and have not refused a single member in good standing. The duties of your chairman require quite a good deal of time; questions arise that cannot be dismissed in an easy manner. Satisfactory evidence can be furnished for all decisions, rules, etc., made by the committee.

Your Chairman has been put to the following expense in the past year:

215 stamps.............	$4.30
Long distance calls	7.00

I hope that we have accomplished that which you expected us to do.

Respectfully submitted.
John J. Moren, Chairman.

VICE-PRESIDENT HENDREN: You have heard the report of the Chairman of the Medico-Legal Committee? What will you do with it?

THE SECRETARY: I move that it be received and approved.

Motion seconded.

CYRUS GRAHAM: I do not like to let this report go by without some discussion, and while I may not speak to the point in discussing the report, still I want to say something about it.

I think every member of the Association should thank the Chairman for his labor during the past year. It has been a labor of love, and I am sure that there is not another member in the profession or another doctor who would take any more interest in this matter than has Dr. Moren. He has been an arduous laborer, and it brings up the question of organization in which I am especially interested, and I feel that it is my duty to say a few words along that line. When we are well organized and every doctor in the Association pays his dues, and we have that money in the Treasury, it will mean a bulwark behind the Association to protect us. That is what it means. If you have every county in the State organized and every secretary working for the good of the order and have every councilor and every delegate working for the good of the Association, it will mean a good deal for the profession. It will lessen the number of these unjust malpractice suits, as everyone of us will pull together. That is what it means.

In my county there was a malpractice suit brought this past year which was one of the most absurd suits I have ever known or read about. It went against the doctor because we did not have organization. He had plenty of friends, but he did not want to call on them; in fact, he did not feel as though he should call on them. We want every doctor in the State of Kentucky who is a registered physician to feel that he has a right to call on any other doctor in the county or in the State in every righteous cause. (Applause). That is what organization means. It means I have to pay my dues. I have to keep the faith of my standing in the Association, and the Association must support me or my brother practitioner, no matter whether that practitioner likes me or not, when we do right. I am trying to do my duty, and he should support me, and that is what it means. It means $125.00 apiece or a little over three thousand dollars. Is there a doctor who would not pay $125.00 to keep from going into the court, legally or otherwise. I would rather pick up $125. If the suit is unjust, I cannot have it. If a suit is likely to be brought, I can tell my brother practitioner not to let the lawyer bring a suit, that I would rather pay $10 than to have a suit brought against Jones. I may not like him, but that does not make any difference. I have a right to my dislikes and he has a right to his. Remember, gentlemen, we are brothers; we are members of the Kentucky State Medical Association, and every man who pays dues should be protected against injustice, and is protected. If you send in $3.00 it means protection, and if you should make it $4.00, it will not hurt you. You can send $5.00 and it will not hurt you. Some of you do not think very much of paying some petty insurance company 25c a week or a dollar a month for an accident policy or pay $20 for an accident policy. It is insurance, but what good does it do if you are dead. By contributing to medical defense, it gives you the most comfort and prosperity while you are alive. That is the point I want to bring out. I do not want flowers strewn on my grave after I am dead. If there are any boquets I want them now. If there is any protection, I want it now. That is what medical organization means, for the State Association in Kentucky. Men write from Louisiana, from Arkansas and from Tennessee, and from Colorado, old friends and classmates, saying that they have read about the Kentucky State Medical Association and its medical defense. They say you protect each other; it must be the grandest organization of medical men in the world, and of course I say it is. I say it is the grandest organization in the world, and it is becoming more perfect all the time. Here we have a county organization, a county secretary, the county president, here are the councilors and delegates, here are our president and members of the State Association, all willing to come under one compact body. Such a united body is an important factor. It counts.

W. A. POOLE: For fear some one may have misunderstood Dr. Graham's meaning in regard to organization, I will say a word or two.

In the malpractice suit in our county evidence was gotten outside the county or from a neighboring county that had no active organization. I am sure what Dr. Graham meant was this, that if our adjoining county had some organization, or such an organization as we have, our man would not have been in the trouble he is now. The whole profession of Henderson county feels grateful to Dr. Moren and his Committee for the courtesies shown them in this particular suit.

VICE-PRESIDENT HENDREN: The keynote of the whole situation is in a good working county medical society. In Bell county we have practically 100 per cent. of eligible members and they all work together. Speaking of malpractice suits, I happen to have had one about two years ago. A man sustained a fracture of both bones below the knee. After he got well it looked like this (bowed), and the result was a lawsuit. They first called the case and it was continued on the plaintiff's motion. The second call was made and it was continued on plaintiff's motion. On the third call, the case was dismissed on the plaintiff's motion. A month after that, one of my friends said to one of the ambulance shin-plaster lawyers, "You didn't bring that suit?" "No." "Why? You had a good case, didn't you?" "Yes, but we didn't bring it for the reason that every doctor in Bell county would swear that the leg was as straight as a die, and they would have sworn it too." (Laughter). Of course this was not true but as Shakespeare said, in Paradise Lost: "A man is a man for a' that." (Prolonged laughter and applause.)

You have heard the report of the Committee, and it has been moved and seconded that Dr. Moren and his co-workers be extended a vote of thanks for their splendid work.

All those in favor of the motion as amended will please signify by saying aye; contrary-minded, no. Unanimously carried.

THE SECRETARY: I have a report from the Chairman on Principles of Ethics, which I will read:

The report was read as follows:

We, your Committee, being most desirous that the Kentucky State Medical Association shall be foremost in all that adds to the dignity and honor of the medical profession, and to aid in the exaltation of its standards, and to help extend to the uttermost its theories of usefulness, and to advance medical science, do most heartily endorse and recommend the adoption of the Principles of Medical Ethics of the American Medical Association, adopted by the House of Delegates of the American Medical Association, June 4, 1912.

We would suggest the adoption of these, because we sincerely believe they cover the whole ground. No physician holding to their tenets can go wrong. "Do as you would be done by" and all is well.

A doctor's obligation to his profession, his obligations to his patients, his obligations to the public, and his obligations to his fellow-practitioners are so clearly set forth that one cannot err.

Signed, WALTER BYRNE, Chairman.

THE SECRETARY: I move the adoption of the report.

Motion seconded and carried.

THE SECRETARY: The Committee on Finance desires me to make a partial report. This report will have to lie over for action at a future meeting of the House, probably tomorrow.

The report is as follows:

REPORT OF THE FINANCIAL COMMITTEE.

On account of some trouble that we have had the past year in paying some of the bills that had not been approved by a call of the ayes and noes of the Council and House of Delegates, the Finance Committee offers the following amendment to Chapter IX, Section 3, of the By-Laws:

All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates, instead of the present Chapter IX, Section 3, which reads, "All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes."

It is according to parliamentary law and custom for the presiding officer to call for the ayes and noes at the request of any member.

and anyone may avail himself of this when there is any doubt, so we think that the phrase "on a call of the ayes and noes" is superfluous and should be stricken out.

Signed, Charles A. Vance,
John W. Gilbert.

C. Z. AUD: Inasmuch as we have with us a person who has done as much work and has shown as much energy in behalf of one class of society as any person or number of persons in the State, namely, in behalf of the blind, and those having contagious and infectious eye diseases in the mountains, in the person of Miss Neville, I desire to report for the Committee on Legislation and Public Policy in order that you may hear from her, if it is the wish of the House of Delegates.

Your Committee on Legislation and Public Policy begs to report that inasmuch as there has been no meeting of the Kentucky State Legislature during the last year, there is nothing concerning State legislation to report.

Concerning national legislative matters, we wish to state that progress is being made, and that in the near future all the various medical agencies will be brought together in one department, the head of which will probably have a place in the Cabinet of the President.

If we had time and the members feel like it, I would like for Miss Neville to be heard on what legislation we will likely need at the meeting of the next legislature. I think Dr. McCormack could inform us, and we want to go before the next legislature with the sanction of this House of Delegates. I hope you will hear Miss Neville and also hear from Dr. McCormack.

VICE-PRESIDENT HENDREN: You have heard this report. What will you do with it?

It was moved and seconded that the report be adopted. Carried.

VICE-PRESIDENT HENDREN: We will now listen to the report of the Committee on Journal.

T. A. FRAZER presented the following report:

REPORT OF THE COMMITTEE ON JOURNAL.

We, the Committee on the Journal, have the honor to report as follows:

1. We recognize the Journal as a medical magazine that is a credit to our State Organization, and a shining example of the fruits of cooperation.

3. We commend the sound business manable secretary editor who has labored so faithfully to give us a better journal year by year.

3. We recommend the sound business management of the Journal, and are gratified that it is self-sustaining and we congratulate the State Association upon securing a business manager with such tact and skill.

4. We commend the Journal to the profession of the State as clean and scientific. That it should be the pride of every doctor in Kentucky to make it better in the future than it has been in the past.

5. We recommend that the profession of Kentucky patronize as far as possible the people who advertise in our Journal, and in that way help to secure a high class of advertising.

6. We recommend that more scientific editorials appear in the Journal in the future than has been in the past. We also acknowledge with pride the high class of scientific editorials that appear in our Journal.

7. It is with special pride that we recognize our Journal as the best journal now published by a state organization.

8. We commend the entire management of the Journal to the profession of the State as wise and judicious, and worthy of the great profession they represent .

9. We recommend that the County Societies bend every effort possible to improve the Journal by reporting society proceedings and furnishing as many original communications as possible.

Signed, T. Atchison Frazer, Chairman.

VICE-PRESIDENT HENDREN: You have heard the report of the Committee on the Journal. What will you do with it?

It was moved and seconded that the report be adopted. Carried.

VICE-PRESIDENT HENDREN: Are there any further reports of committees?

P. H. STEWART: The Committee on Secret Division of Fees is ready to report.

VICE-PRESIDENT HENDREN: Present your report at this time.

Dr. Stewart presented the following report:

It would seem at first glance that the universal opinion of the medical profession would be against such practice, but basing an opinion on the information gleaned and furnished by the Judicial Council of the American Medical Association, submitted at the recent session of that body in Minneapolis, one is forced to the conclusion that such practice is considered not only fair, but honest, by some of the best men in the profession.

This report specifies that it made an extensive investigation of the merits and demerits of the practice, sending out circulars and personal letters to some 6000 prominent members of the profession in different sections and different states. The report may be further said to be based on the opinion of those officially representing the ultimate constituent bodies of the American Medical Association in the various states ,together with the pick of prominent and active members selected in each state. It may be said, therefore, to be a report founded on the representative opinion of the members of the American Medical Association. This investigation disclosed the fact that 13.4 per cent of the most prominent members in this august body favored such practice, and that 9.3 per cent was doubtful concerning the justice of the practive.

This report further shows that in the centers where civilization boasts of its superiority, and where wisdom, culture and learning are expected to be found more perfect and crystalized, the practice of secret division of fees is more frequently resorted to than in less fortunate communities. It further shows that such practice is more prevalent in cities than in small towns.

To this, your committee, it presents a problem which we refer to you for the most serious consideration, and urge upon this society some radical action which will eradicate the dishonest and nefarious practice. We do not desire to deal with the condition where the patient is made thoroughly familiar with the transaction, where the entire action is an open book, nor do we think when a doctor leaves his practice and goes with his patient in consultation with the specialist, and where he is of aid and assistance to both patient and surgeon, that he should not be remunerated, but we do most earnestly protest against the practice where the surgeon or specialist offers a secret commission or division of fee to the physician referring his case.

If such action could be instituted, we suggest that this Association recommend to the State Board of Health the revocation of license of any physician or surgeon proven guilty of this practice.

We suggest further that this body recommend to the Medical School of our State specific instructions to its students against such practice, impressing upon them the dishonesty of the proposition.

We further recommend the following resolution for adoption:

Resolved, that any member of the Kentucky State Medical Association found guilty of secret fee splitting, or of giving or receiving of commissions, shall cease to be a member of this or any county medical society within the State.

Signed, P. H. Stewart, Chairman.

VICE-PRESIDENT HENDREN: You have heard the report of this committee. What will you do with it?

T. A. FRAZER: I move that the report be received and adopted as the views of the House of Delegates.

Motion seconded.

DR. FRAZER: There are some things in this report which bring to my mind very vividly the fact of a certain surgeon writing letters to practitioners asking them to send him patients, and giving them an equal division of the fees. I wrote that gentleman such a strong letter that I have not heard from him since. He has written doctors all over west Kentucky and has offered to give them one-half of the fee he can collect. That is being done by fellows of his ilk all over the country.

Motion put and carried.

THE SECRETARY: In order to make this effective, I move that the Council be directed to draw up an amendment to the Constitution or to the By-Laws, as may be found necessary, to make the action here taken effective, and authorizing some one to execute this resolution which has been passed, and which is of no effect as it would be a violation of the Constitution and By-Laws at present.

Motion seconded.

VIRGIL E. SIMPSON: Will the Council sit as a court in determining the guilt or innocence of the accused?

VICE-PRESIDENT HENDREN: You cannot answer that question until they bring in an amendment to the Constitution.

P. H. STEWART: If such an amendment to the Constitution or By-Laws is passed by this House of Delegates, it can be passed by each separate county medical society and can be handled by the individual county medical society.

THE PRESIDENT: Such an amendment to the Constitution must lie over for twelve months.

Motion put and carried.

THE SECRETARY: At the session of the House of Delegates yesterday an amendment to the By-Laws was offered, making Section XI, of the By-Laws to read that "the annual assessment shall be $3.00 per capita."

This is merely to legalize definitely the action taken last year. The Council thought the action was legal, but some of the officers thought it was not, and in order that there be no further question in regard to the matter it was thought best that an amendment should be passed *pro forma* and put in the By-Laws in proper shape. I hope it will be passed by a rising vote.

It was moved and seconded that the By-Laws be so amended. Carried unanimously.

THE SECRETARY: I would like to move that Miss Neville, the distinguished president of the Association for the Prevention of Blindness, be given the privileges of the floor. She has done a remarkable amount of altruistic work for the people of the State. She has traveled from Lexington in order to appear before the House, and I move that she be given the floor at the present time for 10 minutes.

THE PRESIDENT: If there is no objection, Miss Neville will be given the privileges of the floor and we shall be glad to hear from her.

MISS NEVILLE: When I go to Frankfort to get legislation I want some good doctor ready to go with me. I am tired of saying to legislators, I want this bill passed without having the authority of the doctors behind me. If you will give me your help, I can get the help of the Federation of Women's Clubs of Kentucky.

The resolution I am going to read has been prepared after comparing the laws of 25 different states on the subject. It is as follows:

> Should one or both eyes of an infant become inflamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the physician, relative or other attendant having charge of such infant to report within six hours thereafter to the Board of Health of the city or town or county in which such case shall be found, the fact that such inflammation, swelling or redness of the eye or eyes and unnatural discharge exists. On receipt of such report, or upon knowledge that such inflammation, swelling or redness of the eye or eyes of a baby under two weeks old, and unnatural discharge therefrom exists, the Board of Health shall take such immediate action as it may deem necessary in order that impairment of vision or blindness may be averted. In case the baby's family cannot pay the expense involved for the necessary action, the city, the town or the county shall bear the expense. Whoever violates the provision of this section shall be punished by a fine not to exceed $100 or imprisonment not to exceed six months.

We have not an exact method of ascertaining the number of cases that exist, but in Lexington last year the tuberculosis association, the visiting district nurses' department reported 13 babies with *ophthalmia neonatorum.* If I had the itme at my disposal I could interest you very much by telling you just how we feel in regard to these cases, and why one baby's eye is rendered blind, and how we succeeded in preventing blindness in another case. I am sure that you would vote for that particular clause authorizing and requiring health boards to take action.

Our Juvenile Court officer is allowing the required treatment, and we have had the aid of the police in several instances in Lexington to have young babies treated and blindness has been averted because of the action of the Juvenile Court judges. But judges in every county will not so interpret the law; therefore, I want the express statement in this bill requiring health boards to do what they are unwilling to do. I thank you. (Applause).

THE PRESIDENT: What will you do with this resolution?

J. M. SALMON: I move that the resolution be adopted as read.

Motion seconded.

V. E. SIMPSON: Does this resolution mean that a doctor shall notify the county or state board of health in reference to this condition preliminary to making a diagnosis of the condition?

THE PRESIDENT: I cannot answer that question.

V. E. SIMPSON: The wording of the resolution is rather loose, and the interpretation thereof would be left to various bodies with reference to the exact meaning, and personally I am going to vote against the resolution. I do not believe I should be required to report a case of conjunctivitis to the state or local board of health for any action whatsoever until the diagnosis has been established that it is gonorrheal ophthalmia. I am willing to be in accord with the idea that gonorrheal ophthalmia should be one of the diseases to be reported by the medical profession to help the boards, city, county or state, but as the resolution now stands, it seems to me it is quite as absurd as to require doctors to report every skin eruption preliminary to making a diagnosis of smallpox or measles, or whatnot.

T. A. FRAZER: I think the resolution is all right. Of course, it would be a good thing if the resolution was so worded that it would satisfy everybody, but such a thing is difficult to do.

EVERETT MORRIS: I would like to have the resolution read again.

The President read the resolution, and on being put to a vote was adopted.

THE PRESIDENT: We will now listen to the report of the Committee on Contract Practice, Dr. A. O. Sisk, Chairman.

A. O. SISK: In consideration of contract practice as it exists in Kentucky at this time in various ways it seems expedient to define just what constitutes contract practice and differentiate between what may be termed honorable and dishonorable contract practice.

Article VI, Section 2, of the Principles of Medical Ethics as adopted by the American Medical Association, says: "It is unprofessional for a physician to dispose of his service under any condition that makes it impossible to render adequate service to his patient or which interferes with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession."

In order that we may make the subject clear, we submit the report of the Judicial Council of the American Medical Association dealing with the subject of contract practice. The report is as follows:

"All medical practice is contract practice either implied or expressed between the physician and plaintifl if the patient be of legal age, or between the physician and the parents or guardians of a minor. There is no reason in law or morals why a physician should not enter into a contract with an individual, firm or corporation, provided that the contract be an honorable one for the performance of an honorable act and not interfering with the rights of others. Contract practice here considered is not the contract usually implied, but which at times may be definitely stipulated between the physician and the individual patient. The other forms of contracts in which physicians enter are those between the physician or surgeon and business corporations, such as railroad, mining, manufacturing, and life insurance companies. In another class are those between medical men and benevolent or fraternal associations, the so-called lodge practice. Another kind of contract is that between physicians and the industrial insurance companies. The lodge practice and the industrial insurance work stand out distinctly on a different basis from the other contracts with economic corporations. The contracts made between physicians and economic corporations are necessities in our present stage of economic development. Surgeons and physicians are employed by these corporations partly as a matter of self-protection that they may properly care for the accidents occurring in the transaction of their business, and that they may be protected against unjust damage suits that are likely to occur, for should they not be so protected it is possible for these companies to be wiped out of existence in a few years by the enormous mass of damages brought against them. Besides this self-defense of the company, there is a growing appreciation by large corporations that the better the health of their employees is protected the better will be the results obtained in their work, and hence while it may tend towards benevolence and socialistic ideas, it is really a question of economic efficiency. Further, many lumber and mining camps are widely distant from towns and places where physicians would naturally settle and these camps need some medical man to care for the men employed. All such contracts as these are necessities and should be recognized as such, the only question arising being the details of the contracts and the fairness of the remuneration given. If medical men are poorly paid and paid below the possibility of a fair living wage, they give poor service in return and there is a law of diminishing returns even in the matter of medical services. Poor, under-paid medical service is a foolish and expensive economy to corporations.

In the matter of lodge practice and fraternal and benevolent societies, another situation arises, namely, the question of health insurance. Medical attendance in the lodges and fraternal and benevolent association is a part of the inducement for the joining of these associations. There is a point in wage earnings at which these lodge medical services are not economic necessities, but on the other hand there is a point in wage earnings at which the ratio of fixed charges to total income is such that these fraternal societies do become an economic necessity in the sense of health insurance. The late Dr. Bristow in an address before the New York Academy of Medicine, strongly emphasized this point of view. He further showed that in the United States the annual income of adult males is in 90 per cent. less than $800, in 75 per cent. less than $600, and in fully 50 per cent. less than $500 with 20 per cent. earning as low as $200 per annum. It is further a noticeable fact that the smaller the income the larger the family. There is no question that the fixed charges for necessities against a small income are a large propjortion of the total of that income. Moreover, with the poor earning their living by a daily wage, if sickness comes upon them their income ceases and whatever savings they may have been able to scrape together quickly vanish for the mere necessaries of existence. In cities these necessities for medical attention are met by the free dispensaries and free hospitals and the mass of population has become medically pauperized through the sheer necessities of their environment. On the other hand, the result on the medical profession of this economic situation is that hardly more than 10 per cent. of the physicians in the United States are able to earn a comfortable income. The medical profession finds that an adequate medical education requires of students a constantly increasing length of time and of money for its attainment: It is the most costly of all the learned professions, and with living expenses constantly increasing and with the physician's opportunities of earning a livelihood from the general population constantly diminishing, and further with the profession devoted to self immolation by its constantly increasing development of preventive medicine and sanitation, we are forced to consider the situation as one produced by economic forces and that lodge practice under certain circumstances is one of health insurance that must be accepted and controlled, not condemned and shunned. No one questions the right of any man to take out a health policy in an ordinary health insurance company. No one questions the right of that man by this policy to pay from $60 to $300 a year as an insurance against his possibility of accident or disease and possible temporary or permanent invalidism occurring to him in the work peculiar to the medical profession. How then does this differ from a dollar a year that members of the lodge and societies pay for the privilege of obtaining medical services and care in accident and sickness if these misfortunes come to them? There is no difference in principle; there is no difference in the economic necessity of it. As such it should be recognized and treated. The question comes down then to the designation of the weekly or monthly income at which this should be treated as an economic necessity and above which it is an economic luxury. These economic conditions have been reached in the countries of Europe and have recently caused a vigorous struggle between the medical profession and the government in England. It is useless to struggle with "Whereas's and resolutions" against these economic facts. It is time for the American Medical Association and its constituent bodies to look these facts squarely in the face, to accept them and by instituting fair control to see that justice is given to the members of their profession and that an equal social justice is given to the poor whose necessity demands this sort of service.

The replies received by the Judicial Council on the matter of contracts in mines and railroads and factories show that in some states the contracts are just and that the recompense to the physician is in ratio to services rendered and is adequate in amount for such services. On the other hand, there are other replies which show the reverse. The Judicial Council believes the remedy for these evils resides in the county societies, that these societies should use their influence and power not to condemn the physician who must take the contract by ostracizing him, but to prevent under bidding for these contracts below what will give a fair reward for medical services rendered. So, too, in the matter of lodge practice, the Judicial Council believes it to be the duty of the local county society to endeavor to reform and not alone to condemn the abuse of lodge practice. These abuses are many and are unfair alike to the medical man and to the lodge members. But because lodge practice is the expression of health insurance, it must sooner or later be faced."

The Committee on Contract Practice recommends for adoption by the House of Delegates, the following resolutions:

Resolved, That the House of Delegates of the Kentucky State Medical Association endorse contract practice so far as it relates to economic corporations.

Resolved, That the House of Delegates of the Kentucky State Medical Association endeavor through the action of its various county societies to reform the various abuses of lodge practice in their separate communities in order that the lodges may give an adequate service to its members and an honorable remuneration to the medical men.

Signed, A. O. Sisk, Chairman,
P. H. Stewart,
H. M. Boxley.

THE PRESIDENT: You have heard the report of this committee, what will you do with it?

J. W. KINCAID: I move that action on the report be deferred until the next meeting of the House of Delegates.

Motion seconded and carried.

On motion, duly seconded, the House of Delegates then adjourned until Thursday morning, 8 o'clock.

THIRD SESSION—THURSDAY, SEPTEMBER 4.

The House of Delegates met at 8 A. M., and was called to order by Vice-President Hendren.

The first order of business was the roll call by the Secretary.

The Secretary called the roll and announced that 82 delegates and alternates had responded.

THE PRESIDENT: The next order is nomination for president. I now declare the House open for nominations.

The Chair will appoint as tellers, Drs. Keene, Harned, Sisk and Gillim.

L. C. REDMON: I would like to nominate Dr. E. M. Wiley, of Fayette county, a man who is the dean of the profession of Fayette county and perhaps of central Kentucky. Dr. Wiley is a man of wide and extensive practice and experience. He was superintendent of the East Kentucky Hospital for the Insane, two terms, and ran it very successfully. He is a cousin of Harvey W. Wiley, the pure food expert. Dr. Wiley is a man much loved in his community. If he has an enemy, I do not know it. I think the Association would be honored to have him serve as our next president, and I nominate Dr. Wiley of Lexington. (Applause).

THE PRESIDENT: Are there any further nominations?

D. M. GRIFFITH: Perhaps the greatest function the House of Delegates has to perform is the selection of its president-elect to preside over its deliberations during the ensuing year. In other words, we are to choose that member whom we are to designate as the official head of this organization for the next two years, and we are now about to perform that function, and we should do so, sir, with the greatest care and deliberation in order that we may choose wisely and well.

I present to you, sir, the name of a man akin to no other great man, Dr. Wiley or otherwise. His greatness lies in his own ability. (Applause.) He, like the ancient tub, stands upon his own greatness as that tub stood upon its own bottom and floated ordinarily on its own merit. We should nominate a man who has wisdom, and who has worked for this organization in the past, and who is proficient and progressive, and best equipped to fulfill and perform the important duties that will devolve upon him in filling that office. It is said to be a part of Grecian philosophy that when a man has a physical defect he has also a corresponding mental or moral infirmity. I present to you, a man that has none of these imperfections; a man who stands square to the four points of the compass of character; a man sterling in the other elements that make up men, that make up a doctor; a man that can preside over your deliberations with great parilamentary acumen, and a man that will give every member of this organization a fair deal, without fear and without favor, and so he will preside over your deliberations.

The Kentucky State Medical Association has a rich heritage in many of the great men numbered among its ex-presidents, the sound of whose names is a symbol of proficiency and of progress, and so we should elect a man who can measure up to all the magnificent standards that have been set by his predecessors in presiding over this body. The medical men of Kentucky, like the great citizenship of this conspicuous Commonwealth, love, sir, to honor her self-made men. I bring you to-day, sir, the name of a man born in a household, humble though honorable; an orphan at the age of 5, self-educated, and a finished scholar at 25, and one sir, who can grace your State occasions with an eloquence that will captivate and charm your guests and make each member of this august body stand on tiptoe with pride upon these occasions. I am sure, you will make no mistake in selecting him as your next president. (Applause.)

Mr. President, in behalf of the County of Daviess, I present to you the professional patriarch of the Pennyroyal, the cavalier of our calling, Dr. J. W. Ellis of Daviess county. (Loud applause.)

THE PRESIDENT: Are there any further nominations? If not, I will declare nominations closed for president-elect and you will proceed to ballot.

J. W. Ellis received a majority of the votes.

W. B. McCLURE: On behalf of Dr. Wiley, I move, sir, that the nomination of Dr. Ellis be made unanimous.

Motion seconded and carried unanimously.

J. W. Ellis was then declared unanimously elected president-elect of the Kentucky State Medical Association. (Applause.)

THE PRESIDENT: The next order is the election of first vice-president. Nominations are in order.

B. S. RUTHERFORD: I wish to nominote a man for First Vice-President who is eminently qualified to fill that position. He has been president of his county society and also of the Tri-County Medical Society. He is a man of whom we are very fond. His face is familiar in most of the societies running from the county society up to the American Medical Association, and I am sure if you will elect him he will fill the position with credit and honor to himself. That gentleman is J. L. Neel, of Drake in Warren county. He is a country practitioner, and has stood for everything pertaining to the uplift of medicine. (Applause).

It was moved and seconded that nominations be closed. Carried.

W. B. McCLURE: I move that the rules be suspended and that the Secretary be instructed to cast the ballot of the House of Delegates for Dr. Neel, and that he be declared the nominee of this Association.

Motion seconded and carried.

The Secretary stated that he had cast the ballot of the House of Delegates for Dr. Neel, and accordingly he was declared duly elected First Vice-President.

THE PRESIDENT: Nominations are now in order for Second Vice-President

R. C. McCHORD: I desire to place in nomination for the position of Second Vice-President, J. B. Kinnaird, of Lancaster. (Applause).

It was moved that the rules be suspended and that the Secretary be instructed to cast the ballot for Dr. Kinnaird as Second Vice-President.

Motion seconded and carried.

The Secretary cast the ballot as instructed and Dr. Kinnaird was declared duly elected Second Vice-President.

THE PRESIDENT: Nominations for Third Vice-President are in order.

J. E. WELLS: I desire to nominate Marshall McDowell, of Cynthiana, for the position of Third Vice-President.

A. O. SISK: I desire to nominate A. W. Davis of Hopkins County for this position.

M. McDowell received a majority of the votes.

A. O. SISK: I move that he election of Dr. McDowell be made unanimous.

Motion seconded and carried.

M. McDowell was declared unanimously elected Third Vice-President of the Association.

THE PRESIDENT: The next office to be filled is that of Secretary, and I declare the House open for nominations.

R. C. McCHORD: I nominate Dr. A. T. McCormack as Secretary. (Loud applause).

T. A FRAZER: I move that nominations be closed, and that the presiding officer be instructed to cast one ballot for the unanimous election of Dr. McCormack.

Motion seconded and carried.

Accordingly, the president cast a unanimous ballot for Dr. McCormack and declared him duly elected.

There were cries of Speech! Speech! Speech!

THE SECRETARY: Mr. President, instead of calling for a speech, if you will permit me leave to print, I will say in the JOURNAL what I propose to do during my term of office. I thank you very much. (Applause).

VICE-PRESIDENT HENDREN: The next office to be filled is that of Treasurer. Nominations are in order.

W. W. RICHMOND: I nominate W. B. McClure to succeed himself as Treasurer. (Applause.)

THE SECRETARY: Knowing the faithful work of Dr. McClure as I do, I would like to have the priviledge of seconding his nomination.

D. M. GRIFFITH: I move that nominations be closed and that the Secretary be instructed to cast the ballot of the House of Delegates for Dr. McClure as Treasurer.

Motion seconded and carried.

Accordingly, the Secretary cast the ballot for Dr. McClure as instructed and he was declared unanimously elected by a rising vote.

There were cries of Speech! Speech!

W. B. McCLURE: I thank you most profoundly for this honor. I am glad to have been tied to the tail of Dr. Arthur McCormack's kite. (Laughter and applause).

The following are the other officers that were duly elected: Councilors: Dunning S. Wilson, Louisville; Joseph E. Wells, Cynthiana; Ernest Rau, Bowling Green. Delegates to the American Medical Association, W. W. Richmond, Clinton;A. H. Barkley, Lexington;. Orator in Surgery, A. D. Willmoth, Louisville; Orator in Medicine, W. A. Poole, Henderson.

When it came to the selection of a place in which to hold the next annual meeting, Pineville, Ashland and Newport were placed in nomination. Newport was chosen as the place for holding the next meeting.

C. Z. AUD: I wish to call attention of the House of Delegates to the fact that the term of office of John G. South of the State Board of Health expires, and it is necessary that you recommend three names to the Governor from which he may select Dr. South's successor. I recommend to you John G. South, Frankfort; J. E. Wells, Cynthiana, and F. M. Beard,, Shelbyville.

T. A. FRAZER: I want to second the recommendation of Dr. Aud and make a motion that they be recommended unanimously by casting one ballot by the Secretary.

Motion seconded and carried.

On motion, duly seconded, Homer G. Hamer, of Indianapolis, Indiana, was extended the privileges of the floor and invited to participate in the discussions.

VICE-PRESIDENT HENDREN: We are now under the head of Reports of Committees. Before we adjourned yesterday, a motion was made and passed that regrets of the association be telegraphed to our friend and co-worker, John G. Cecil, of Louisville. This telegram was drawn and forwarded by Dr. W. O. Roberts, but on account of time was not read. This telegram has been sent:

John G. Cecil, Louisville, Ky.—The Kentucky State Medical Association notes with regret your unusual absence from its session and directs us to wire to you its admiration and personal confidence in you personally; and to express the wish that you may be restored to such a condition of health as will enable you to continue our model as a physician and as a man.

Signed, W. O. ROBERTS, President,
A. T. McCORMACK, Secretary.

VICE-PRESIDENT HENDREN: The Committee on Resolutions for the death of Dr. J. B. Marvin, has been appointed by the President as follows: Ap Morgan Vance, Louisville; E. M. Wiley, Lexington, and J. H. Blackburn, Bowling Green.

VICE-PRESIDENT HENDREN: We will now listen to the Report on Medical Education by W. W. Richmond.

W. W. RICHMOND: I have a report, but owing to a recent spell of sickness left it in my hand bag.

THE SECRETARY: I move that the report of Dr. Richmond be received and approved and printed in the proceedings without hearing it.

Motion seconded and carried.

THE PRESIDENT: Are there any other reports?

Everitt Morris, Chairman, presented the following report of the Anti-Tuberculosis Committee:

Your committee desires to submit the following:

The law creating the Kentucky Tuberculosis Commission contemplates in general three forms of possible activities: Investigation, general education, and the direction of the building and maintenance of district tuberculosis hospitals to be erected in districts composed of one county, or two or more contiguous counties. Any work of investigation conducted by the commission will probably be into the social and economic aspects rather than the medical aspects of the disease. And is as much as the building and mainby the people of a county, or group of counties, will undoubtedly have to be preceded by an intensive educational campaign, the work of the commission is now and probably will be for sometime to come concerned with the education of the public. To this end the commission is exercising itself in several different ways and in several section sof the State.

Most of the facts that should be known concerning consumption by every person have been incorporated in a page of matter which has been distributed, through the Western Newspaper Union, to about 120 of the newspapers of the State. In addition, notes of interest regarding the campaign against tuberculosis, both in this State and throughout the nation, are prepared at the office of the commission and mailed to newspapers throughout the State often enough, so that, if the editor chooses, he can publish something at least once a week. We feel that the doctors throughout the State can render no small aid in the campaign against preventable disease by watching their local newspapers for the publication of such item, thanking the editor for them, and requesting that all such news be published.

The Commission will send throughout the State its tuberculosis exhibit car, which, in seven weeks, has covered points on the L. & N. road from Louisville to Springfield, Greensburg and Stanford. This car remains from one to three days in each town and, in many small villages, reaches as high as 80 per cent. of the population in 24 hours. An exhibit of placards, pictures and charts, together with a window tent, and small model of clean and dirty houses, is exposed in the car, and on all suitable evenings stereopticon lectures are given in some available hall outside. At present, the commission has two representatives visiting the county teachers' institutes of the State to talk to the teachers not simply concerning tuberculosis, but also briefly about other diseases and defects of school children, together with some positive suggestions about the way these conditions may be remedied. This work is particularly in line with the ideals of the commission, which are to prevent tuberculosis in the coming generation, rather than to cure a few individual cases in this.

The Commission has employed an experienced nurse, until recently head of the visiting nurses at Louisville, whose work will be confined to certain individual counties, one after another. She will speak to school children, church audiences, and other public gatherings of people, and will endeavor to form a county public health organization, with branches in the various towns, to undertake the gradual education of their citizens concerning disease, and sanitation; to establish free tuberculosis dispensaries; to secure aid for individual consumptives, and to arouse the citizens to the necessity of special hospitals for tuberculosis. Organizations of this sort are also being established in towns where the exhibit car works.

The Commission has also appointed a representative, Dr. D. P. Curry, to co-operate with the state health department in a campaign against hookworm, typhoid fever, and tuberculosis in Christian County. This campaign consists of lectures to audiences, conferences with individuals, the examination of specimens for hookworm, and the collection of sputum for examination for tuberculosis at the State bacteriological laboratory. In certain of the counties of the State there has already been a sufficient amount of educational work to convince a group of its progressive citizens of the necessity of establishing local tuberculosis hospitals. Certain of these counties, namely, Fayette, Daviess, and Henderson have to date earnestly asked the cooperation of the State Tuberculosis Commission in conducting such an intensive educational campaign of all the citizens of the county to show them also the necessity of a tuberculosis hospital. Where the limited funds of the Commission permit, such aid will doubtless be extended. An exhibit for such a campaign is now being tried out at certain county fairs.

The Commission desires its offices to be a sort of clearing house of information, from which printed matter, or personal letters, can be sent to individual consumptives, and those who are interested in guarding themselves from the possible ravages of the disease. We will gladly undertake to suggest to health leagues, or health committees or other organizations, such as women's clubs, program or profitable local activities.

All these activities of the commission are in accordance with its belief that the health of communities cannot be continuously safeguarded and improved by efforts from outside without the cooperation of the community; but that each community must care for its own health, and the proper function of any outside body is that of suggestion and expert guidance.

Signed, Everett Morris, Chairman,
Dunning S. Wilson.

VICE-PRESIDENT HENDREN: You have heard the report of this committe. What will you do with it?

VIRGIL E. SIMPSON: I move the report be accepted, and that we congratulate the Commission on the appointment of Dr. Curry as a representative in this work.

Motion seconded.

THE SECRETARY: I have been in Christian County and in speaking of the value of the work done by Dr. Curry I am voicing the sentiments of Dr. Richmond in saying that his work has been of the utmost value. The hookworm work has gained the confidence of the people in such a way that it makes it possible to do more intensive work than in other lines. There is more tuberculosis in Christian County than hookworm, yet everybody realizes the importance of hookworm disease. Dr. Curry deserves the thanks of the whole profession for what he has done.

It is a matter of sincere regret that some medical man with the heart and courage and the nerve and knowledge that Dr. Curry, Dr. Morris and Dr. Wilson have, who are familiar with the great subjects in a way that only physicians can be, is not an active officer, so that the matter can be carried before the people and before the profession and before the fiscal courts as only a competent doctor can do it.

I move as an amendment to the report of the committee that we respectfully urge upon the commission that its executive officer be a physician in place of Mr. French when his term of office expires.

The amendment was seconded and accepted.

CYRUS GRAHAM: In support of what Dr. McCormack has just said, in looking over the field I find the principal trouble is ignorance on the part of our county officials in regard to the matter as well as the people and if we encourage this commission in its work and also advise or recommend to them that they get busy with the county officials throughout the entire state and let the county attorneys know what the law is, we will accomplish more. In my own county the county attorney did not know the law. I hunted it up and read it to him myself. As Dr. McCormack says, if the commission has the entire medical profession behind them, admonishing them, and backing them up, then they will go to the county attorneys, the county judges, and fiscal courts, and get them interested in the matter. It is absolutely necessary that a campaign of education shall precede a campaign of anti-tuberculosis. If we get a campaign of education first, we will have opened a gateway. They will appreciate the efforts we are making, and if every county secretary, if every councilor interested in the anti-tuberculosis campaign will get busy and send literature and inform the county attorneys and county judge what it means, they will be ready for us. If we will instruct them as to what we want, they will be ready for us. The fiscal court men and county judges are willing to listen to us, but when you talk about appropriations, it is like shaking a red flag in a bull's face. They think about taxes. Every patient saved from tuberculosis is just that much economy. This they do not always realize. Let us, if possible, institute a campaign of education prior to instituting a campaign of anti-tuberculosis.

J. G. OWSLEY: I heartily agree with what the preceding speaker has said in regard to this initial education that ought to be carried on. Gentlemen, as you very well know, it is a rule that our fiscal court, especially in my section of the country, is composed of men who are entirely unfamiliar with these things. They are men who have. as a rule never heard of such things as these. In the months of June and July there was a vigorous campaign carried on against hookworm in my county by Dr. Lock. I had, together with other of our physicians, been working on this matter for twelve months or more before they came. I talked with every magistrate in the county, our county attorney and our county judge about this matter, and when I first began to talk to them it was like throwing water in their faces. If you want to get near a magistrate's heart you talk about an appropriation, and you certainly get near his heart. If this matter concerning hookworm had been put before the fiscal courts, before they were posted, it would have failed ingloriously. There would not have been a member who would vote for it. We worked on this matter for a year before it was put before the fiscal court. As I have said, I talked to every magistrate in regard to it, and had written to all of them except one, and when the matter was put before the fiscal court we had no trouble in getting the matter passed. Every member of the fiscal court voted for it. As the gentleman has said, you may take my county and not only mine but nearly every county in the State, and put this matter before them now, and it will be voted down by the members of the fiscal courts, that is, before they understand what is to be done and what this thing means. The thing to do is to get the matter before the county attorney and before the magistrates. If it cannot be brought before the present fiscal court, get it before the new fiscal court the coming year, and when it is properly brought before the fiscal court of each county, you will not have any trouble in getting the matter passed, especially in my own county. I am a member of the county board of health, I am going to take it up with the fiscal court, and with the other doctors of the county, and I believe something will be accomplished, but before this thing is done, there must be an educational campaign carried out, as has been suggested by the preceding speaker.

The original motion to accept the report with its amendment was put and carried.

D. M. GRIFFITH: I move the adoption of the report of the committee as amended.

Motion seconded and carried.

D. M. GRIFFITH: I move that we suspend the regular order and that a committee be apointed at this time to escort the president-elect to the platform.

Motion seconded and carried.

Drs. Graham, Collins, and Lock were appointed as a committee to escort the president-elect, Dr. Ellis, to the paltform.

Dr. Ellis, on reaching the platform, was received with great applause.

CYRUS GRAHAM: Gentlemen of the Kentucky State Medical Association, I present to you your next president, Dr. J. W. Ellis, of Daviess County. (Applause).

J. W. Ellis, in accepting the presidency, said: Vice-President Hendren, Ladies and Gentlemen, Members of the Kentucky State Medical Association: No one can be indifferent to such an honor as the Kentucky State Medical Association has thrust upon your humble servant this morning, and I am sure these honors increase when he begins to think of the source whence they come. We regard, and we know, that he Kentucky State Medical Association is second to no medical organization in the world. (Applause). There are as many splendid surgeons and magnificent diagnosticians in our state society as in any known state organization in the United States, because Kentucky state medicine has many traditions and many ideals, and I am sure that in receiving the support of this organization the honor of presiding over your deliberations the coming year is something of which any one man necessarily must feel proud. But, Mr. Chairman, I do not know what to say. Language has been denominated the deliverer of the human soul, but on this occasion it fails me, because just as the rivulets in the springtime swell and overflow their banks, and inundate the surrounding country, so on this occasion my feelings overflow and inundate my very being, and there is nothing left for me to say except that I thank you. (Applause.)

The Secretary presented the report of the Finance Committee as follows:

REPORT OF FINANCE COMMITTEE.

We have carefully and painstakingly read the reports of the auditor and the full statements of the treasurer and secretary and all the cash books and vouchers on file, and we have listened to the criticisms of the treasurer, president and secretary and others who were interested, and from all this advice and information we have evolved certain recommendations that we think should be made to the House of Delegates.

We have noted that the JOURNAL has made money, and that it seems fair to believe that it will continue to earn even more from its advertisements than it has in the past. It seems to us that it is our main hope for growth in a financial way as the membership list is not growing very fast. It is with a great deal of pride that we point to the fact that since October, 1906, the JOURNAL under its present management has been sent to the physicians of Kentucky at a net profit of $157.19 and in the last year the net profit has been $461.14 and we do not think we can be too lavish in our praise for the great work that has been done, and we would like for you to look up the cost of some other state journals and compare them with ours. In that way you will really see how well we are doing.

We have noted that the monthly balance for the past year to the credit of the Treasurer has been from $2,704.03 to $6,008.73 and that this amount has not drawn any interest as a time deposit. We would sugest that the Council be given authority to invest $2,000 of this money in some good first-class interest-bearing investment as the beginning of a permanent sinking fund. And we would suggest, too, that the treasurer make arrangements to have his bank pay interest to the Association for any short-time balance it may have there.

We have noticed in reading the expense accounts of the councilors that some of them have done good work, as has ben shown by their results and the size of their accounts, and, strange as it may seem, the councilors who did the least work have the smallest expense accounts, and we would recommend, if it comes within the province of this committee, that the House of Delegates select with care councilors who are well known for their conscientious working qualities.

As the actual cost of the buttons has been so reduced, we would suggest that the buttons be given to the members who come to the annual meetings instead of being sold to them.

We would suggest that the bill for the expenses for the Secretary for the 1912 meeting be ordered paid. For some reason or other, this bill, which has been approved by the Council, has not been paid.

We believe that the salary for the Secretary is a very small compensation for the arduous duties of the office, and will recommend that the salary be raised to $125.00 per month. This raise was suggested at the 1911 meeting, but the Secretary refused to accept it at that time, saying that we could not afford it, and that it would pay the salary of a microscopist and this amount was paid to a microscopist.

We would also suggest that the salary of Miss Clyde Howell, the Secretary's assistant, be raised from $60 to $75 per month. Anyone who has attended the annual meetings and who knows how well the work in the office is done, will say that is a very small compensation for her part of the work.

If there should be any member of the State Association who has any desire to examine the affairs of the Association as we have done, he will be given every opportunity to do so, and we rather insist that you do it so that you may know everything that is going on.

We wish to thank the president, treasurer, the secretary and the office force for their assistance and patience with us in this examination.

We believe that the business of the Association is systematized to the smallest item, and that he work of all the departments is done with the greatest efficiency, and we do not hesitate to say so.

Signed, Charles A. Vance, Chairman,
John W. Gilbert.

THE PRESIDENT: You have heard the report of the Finance Committee. What dispositon will you make of it?

T. A. FRAZER: I move the adoption of the report.

Motion seconded.

W. B. McCLURE: I heartily concur in most of the recommendations with reference to the bank being required to pay on amounts on deposit for a short length of time. I agree with that. I think the amount is placed a little high possibly. You will note by the report of the Secretary that at one time last year, for instance, we had but $2,700 in the treasury. If we invest $2,000, we are running very close to the margin and we may get in a hole. You will note by the report of Dr. Moren of the Medico-Legal Committee, as Chairman, that the expenses of that committee doubled last year. The probabilities are, owing to the number of malpractice suits now on file, it will double this year, and the expenses of the September Journal have not yet been paid. The expenses of this meeting have not been paid yet, so that we are suddenly going to get rid of a large amount of money on hand, and the margin is too narrow to make the amount of the loan $2,000.

I would move as a substitute that it be made $1,500.

THE SECRETARY: The committee simply made a suggestion that it be given authority to invest $2,000.

DUNNING S. WILSON: Does the adoption of the report carry with it the increase of the salary of the Secretary and his secretary or assistant?

VICE-PRESIDENT HENDREN: It does.

D. S. WILSON: I should like to offer an amendment to the report of the Committee on Finance by moving that the salary of Dr. South be increased from $25 to $40. It seems to me, irrespective of the great amount of work done, that this is a small pittance for Dr. South, and she is certainly entitled to some increase in remuneration; $25 is a mere paltry sum. Even $40 does not remunerate her for the services she contributes.

W. B. McCLURE: I wish to second the motion of Dr. Wilson. Whenever I send Dr. South a check for her services I think it is a mere pittance. The services she renders are worth many times that amount.

VICE-PRESIDENT HENDREN: The adoption of the report of the committee carries with it the raise in salaries.

J. W. KINCAID: Does the report carry with it the recommendation to pay a microscopist $25?

THE SECRETARY: I do not think it does.

J. W. KINCAID: This report with the amendments will necessitate $660 more in salaries than at the present time, and if the microscopist goes on too, it will be $1,000 more, and the chairman of the Medico-Legal Committee thinks there will be an increase in his expenses during the coming year.

W. B. McCLURE: It amounts to from $800 to $1,000, but that does not pay all the bills that are out, because some of the cases are still unsettled and the bills have not been presented for payment.

THE SECRETARY: The increase in dues will cover a portion of the expense.

I would like to ask that the Committee fix the salary of the Secretary not to exceed $125 a month, and if there is any chance for a deficit during the coming year, there will be no increase in the salary of the Secretary. I expect to see all of the work continued. I would dislike to see a backward step in regard to the employment of a microscopist, because the Rockefeller Commission considers it a most remarkable piece of cooperative work, and if there is any necessity for reducing the expenses of the Association, you may rest assured it will be done voluntarily from my own salary.

I move that we continue the microscopist at $25 a month. Seconded.

J. W. KINCAID: I do not wish to make any statement that may be construed in opposition to the report of the committee. There are members of the Association who have not considered the matter and who do not know how the finances are coming out this year. Our Secretary is paid too small a salary for the amount of work he does. We know that Dr. South is working for a mere pittance. She is rendering invaluable assitance, but we must be just as well as generous, and if we run short of money and have not enough money to pay the other necessary expenses of the Association we had better go slow in increasing the salary list. It is not that I oppose these increases if we can afford them, but I do not want the House to find a deficit next year without understanding now that we will be responsible for it.

T. A. FRAZER: In behalf of Miss Howell, I would like to say that she has had offers of more money than the Kentucky State Medical Association has been paying her or can afford to pay her. She is a regular live-wire. She is doing work worth twice the salary she is paid, and I feel that the Association cannot afford to refuse to recommend that her salary be raised to $75 a month.

D. M. GRIFFITH: I move that the discussion be closed.

VICE-PRESIDENT HENDREN: The first motion is to adopt the report of the committee, the second is to raise the salary of Dr. South from $25 to $40 per month, and the third motion to continue the microscopist at $25 a month. The adoption of the report carries with it all raises in salaries.

The amendment to continue the salary of the microscopist at $25 per month was put and adopted.

The amendment to raise the salary of Dr. South was put and carried.

The question of the adoption of the report as amended was then put and carried.

VICE-PRESIDENT HENDREN: Is the Committee on Reports of Officers ready to make its report?

The Secretary read the following report:

Your Committee on Reports of Officers desires to submit the following: We have examined the books of the Association and find them in excellent condition. The system is simple, yet very complete. We desire to compliment the secretary and treasurer and their assistants on the valuable work they are rendering the Association. We suggest that the reports of all the officers be accepted without further comment.

Signed, C. G. STEVENSON,
L. C. REDMON,
P. D. GILLIM.

T. A. FRAZER: I move the adoption of the report.

Motion seconded and carried.

VICE-PRESIDENT HENDREN: Is the Committee on Contract Practice ready to repost?

A. O. SISK: I completed the reading of it yesterday and action was deferred until today. (The report was again read).

P. D. GILLIM: I commend most of the report. I believe that contract practice between our large corporations, our railroads and our coal mines and physicians is just as it should be, is commendable and inevitable; but when it comes to contracts on the part of our county medical societies dickering with these little fraternal insurance orders to raise the price of the yearly contracts with doctors, I object to that part of the report. We should put our stamp of disapproval on these societies or else ignore them in toto.

By request, the Secretary re-read the resolutions, and said: The object of the committee is met by the provision in the Principles of Ethics. I would like to move as a substitute for the second section of the resolution, the Principles of Ethics on contract practice, which reads: "It is unprofessional for a physician to dispose of his services under conditions that make it impossible for him to render adequate service to his patient or which interferes with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession."

This means that he ought not to contract to treat more people than he can treat, and, in the second place, should not accept such contracts as will prevent reasonable competition between members of the profession in his community. This covers the whole proposition so exactly, that I think it ought to be adopted. I am quite sure the wording cannot be misconstrued and it meets the purpose which Dr.

Sisk had in mind in writing the resolutions.

I move the adoption of the exact wording of the Principles of Ethics for the second section as read.

Motion seconded.

VIRGIL E. SIMPSON: There is quite a difference between the meaning of the two phrases. The substitute of Dr. McCormack sets forth the position in reference to certain contract work, while a portion of the committee's report says that we should exercise due diligence in attempting to correct these conditions which will obtain and which every man in this society knows will obtain. One says it is wrong and disreputable, and the other says we should attempt to correct those things whic hare wrong and disreputable. The two are antagonistic.

A DELEGATE: I second the motion of Dr. A. T. McCormack. It covers the ground fully. It carries with it the elimination of those sentences that Dr. Sisk put in his recommendation relative to lodge practice.

The Secretary then read the section of the Principles of Ethics bearing on this.

A DELEGATE: As far as I can see, I think it would be wise to adopt the suggestion of the committee insofar as we urge our county societies that they take such action as will render this section effective, in adition to this very plain wording of the question.

J. W. KINCAID: This society should go on record as being unalterably opposed to all forms of lodge practice. With regard to corporations, industrial corporations, and mining corporations, it is entirely different. All lodges come into our towns and cities and hold out as one of the chief inducements for membership a sort of sick benefit arrangement and free medical attendance. The corporations come into an unsettled and undeveloped section of the country where there may be no doctors. In order that they may get men to come there and work for them, or if the corporations are located in a city, they soon get men in whom they have the utmost confidence. They may contract with men who stand high in the profession to serve them in the capacity of physician and surgeon. They are paid adequately for their services, oftentimes on a percentage basis, and other times on a per capita basis. There are so many of them, even if the per capita is only 50c or $1.00 a month, and with certain diseases and forms of sickness extra it pays them well, but when a lodge comes to you and says, we want to employ you and we will pay you $2.00 a year, it is absolutely an insult to the profession, and if this society should go on record as saying that we do not think it right nor proper for any member to make examinations for life insurance for less than $5, I do not see how they can take any other action if they are unalterably opposed to lodge practice as it is at the present time handed out to them. (Applause.)

A. O. SISK: A careful reading of the report will show that he House of Delegates is of one accord, and I therefore accept the amendment.

The Secretary re-read his substitute from the Principles of Ethics.

VICE-PRESIDENT HENDREN: You have heard the amendment a soffered. Are there any amendments to this?

J. W. KINCAID: I move as a substitute that it be the sense of this Association that no member of it shall take lodge contract practice.

EVERITT MORRIS: I second the motion, and I desire to say this with reference to life insurance policies and life insurance examinations: there are some insurance companies that claim they do not pay $5.00, but there are very few, if any, life insurance companies that do not pay $5.00 for examinations. We have forced the people to do this, and we can force the proposition that Dr. Kincaid has proposed here for the lodges to pay satisfactory fees.

The amendment offered by Dr. Kincaid was then put and carried.

The substitute of Dr. McCormack was likewise put and carried.

A motion to adopt the report of the committee as amended was put and carried.

P. H. Stewart read the report of the Committee on Resolutions, as follows:

Resolved, That this Association extend its cordial appreciation to the Warren County Medical Society and its Committee on Arrangements, of which Dr. John H. Blackburn was the effective chairman; to the ladies of Bowling Green who have thrown open their beautiful homes for our entertainment; to Mr. W. C. Sumpter, President, and the membership of the Bowling Green Business Mens' Association; to Dr. J. O. Carson and his beautiful wife for the delightful reception in their home; to the Drs. McCormack; and Dr. Cato and the officers and members of the First Christian Church for the use of their commodious building; to the Y. M. C. A. for courtesies extended; to the Press of Bowling Green, and to its entire citizenship for arrangements which have made this the most successful of our 63 annual sessions.

It was moved that the report be adopted.

Motion seconded and carried.

The Secretary read the Report of the Committee on Insurance, as follows:

The Committee has carefully considered the various aspects of the question of life insurance examination. The more we study the matter the more are we impressed with the responsibility resting on the medical men who undertake to make life insurance examinations. The Insurance Companies want to get every healthy risk possible and they do not want their risks rejected by examiners on technical points of no real value. At the same time, the medical examiner is the only protection they have not only against unsuspected ill health, but also from downright fraud. For this reason, no conscientious doctor will make an examination unless he is competent to do it. The examination of the chest with the clothing removed, showing the condition both of the respiratory tract and circulation, is of the utmost importance. Many examinations are not completed without the use of someone of the simpler but accurate blood pressure apparatuses. The examination of the urine should not be perfunctory but should be as carefully made as in a case of serious illness.

No doctor should be content without the examination is carefully made in every detail as this, and no honest insurance company will be satisfied with a less careful one. It follows as a natural consequence that those companies which wish to insure only desirable risks must have competent examiners, and to have them they must pay them. Not only this Association and its component societies, but practically every physician in Kentucky is pledged on his honor that he will charge a minimum fee of $5.00 for each complete examination. It is a matter of regret to your committee, that in practically every section of the State, particularly in the large centers, men are found who will do this for less money; not only this, but medical referees receiving snug salaries, who are employed by their respective companies to secure competent examiners in the country districts, are found in many of the companies attempting to debauch the profession and are doing this by employing the cheapest grade of doctors as their representatives. Such men as these are not kept from their dirty work by the mere fact that an incompetent examiner is overpaid, if he is paid anything, and that the competent laborer is worthy of his hire.

It seems to your committee that the members of our profession, who charge 25c and 50c each for visits to the sick and afflicted, admit their incompetency, and so sell their services at reduced prices. In the same way, we can hardly view with disapproval the fact that many physicians make insurance examinations for less than $5.00 and many of these examinations are not worth the minimum fee charged by competent doctors; but, on the other hand, what can you say of those insurance companies who are willing to accept examinations from examiners, notoriously of the cheapest grade and thoroughly incompetent? It is no defense for such a one to say, "if I do not make these examinations for $3.00 some other ignoramus will." "Act well your part, there all the honor lies."

Gentlemen of the Kentucky State Medical Association, your Committee conceives that it is up to them and to you to continue our active work for the organization of our profession and its betterment until such a time as there will be no incompetents among us, and when every man should be entitled to and shall receive a just compensation for good services actually rendered. (Applause).

It has been the policy of the medical profession of Kentucky to leave matters of discipline as largely to the county societies as possible. With this principle in view, this House last year referred this question back to the county societies with power to act in regard to the standing of our members who were making examinations for such a fee as was an open admission of incompetency. Your Committee believes it is of the utmost importance that these low grade men be kept in the societies and be urged to attend them regularly with the hope that they become better grounded in medical knowledge and will themselves feel they are worth a decent fee. (Applause).

It was moved that the report be accepted. Motion seconded and carried.

The following bills, having been approved by the Council were presented to the House of Delegates, approved, and ordered paid:

Jno. J. Moren	$ 11.30
D. M. Griffith	15.60
I. A. Shirley	27.80
S. W. Bassett Co.,	172.24
Ernest Rou	10.75
W. B. McClure	26.00
W. C. Sumpter	51.03
R. C. McChord	7.75
Cyrus Graham	12.21
W. O. Roberts	46.90
J. S. Lock	17.75
J. W. Kincaid	9.55
First Christian Church	100.00
W. B. Martin, page	5.00
S. J. Martin, Jr., page	5.00
R. H. Crenshaw, watchman	10.00
Three janitors	9.00
Miss Sullivan	25.00
W. A. Poole	40.00
Bland Farnsworth	18.85
American Medical Association, (2750 President's portraits)	45.00

J. T. Windell, Louisvile	10.00
B. P. Eubank, Bowling Green	25.00

The report of the Committee on State Medicine was called for:

THE SECRETARY: I move that this report be received and filed in the absence of Dr. Wells, Chairman.

Motion seconded and carried.

The report follows:

REPORT OF COMMITTEE ON STATE MEDICINE.

Your Committee in looking over the different phases of State Medicine finds much to congratulate the Association upon. We find that to-day progress is being made more more rapidly in our State than at any previous date. We realize and believe that it is the business of the State to do for the mass of individuals those things which cannot be done, or which cannot be done so well, by individual action. Whatever system is found to save to the State the largest number of useful lives (workers or the children of our communities) and which further nurtures and maintains them in the best possible condition of physical, intellectual and moral health is the best system.

Our Association has done much to bring about this condition of things, and in this good work we, as a profession mean to go forward. Much has been and will be accomplished by the vital statistics law, the fight against tuberculosis and hookworm and the organized effort to instruct the people in hygiene and sanitation but there is much yet to be done. We should have medical inspection of schools. A remarkable change in public opinion has taken place in regard to sex hygiene. Our profession has long since realized and the public opinion has at last reached the point where a revolution in sex hygiene and marriage laws is demanded. One of the most important phases of State Medicine confronting us to-day is that of contract practice. The countries of Europe have been dealing with it for some time and since the radical change of the conditions of living has made itself felt in this country the time is at hand when we must face it. The average general practitioner in this country is not receiving proper pay for his services and this is the reason so many of our profession are tempted to take commissions, split fees, and do contract practice.

Contract practice in some instances is a necessity and we as an Association must come to recognize it as such, the only question arising being the details of the contract and the fairness of the remuneration given. The fees for such practice should be in accord with the fees charged in the given community or sufficient for the physician to live well and to properly equip himself for his work. Poor, underpaid medical service, is a foolish and expensive economy to individuals, firms, clubs, or corporations. The secret division of fees, accepting commissions from drug and instrument houses and hospitals or doing cheap contract practice is dishonorable and the physician who is guilty of such practices has demeaned himself and has degenerated from an honorable to a dishonest man.

Your committee believes the remedy for the conditions mentioned lies in the hands of this Association, the county societies and the medical profession as individuals.

We believe our State and county associations should demand publicity in all such transactions and refuse to retain on the roster of any of its organizations the names of those who are proven guilty of these practices.

We would recommend that the House of Delegates of this Association endeavor through the action of its various county societies to reform these various abuses and create a public sentiment in their separate communities in favor of the State looking after the health of the people in order that the people may receive proper instruction in hygiene and sanitation and be given adequate service and the medical men an honorable and sufficient remuneration.

J. E. WELLS, Chairman.

THE SECRETARY: The President of the Association, Dr. Roberts, has asked me to announce the permanent committees for the next year, and that the member of the committee on scientific work be passed so that Dr. Ellis may select him.

The Medico-Legal Committee remains the same.

Committee on Legislation and Public Policy, Drs. C. Z. Aud, J. G. Goodson and Milton Board.

Committee on Medical Education, W. W. Richmond, D. M. Griffith, C. A. Calvert.

Committee on Expert Testimony, J. N. McCormack, Curran Pope, and J. L. Phythian.

Preventable Eye Diseases, J. A. Stucky, M. M. Moss, and R. L. Collins.

I move that these nominations be approved.

Motion seconded by Dr. Frazer and carried.

THE SECRETARY: I move that we take a recess for a few minutes in order to have a meeting of the Council.

Motion seconded and carried.

On re-assembling D. M. Griffith made the following motion: I move that we hear the communication from Mrs. Davis of the Nurses' Association.

Motion seconded and carried.

Mrs. Davis having been accorded the privileges of the floor, said:

Mr. President and Gentlemen: I come before you to ask your endorsement of a bill we are going to try and get through the next session of the Legislature that we may become registered nurses. We are called graduate nurses now. We want to be registered nurses. In other words, we want to be put before the people of Kentucky and before our doctors in this way, that we are entitled by the laws of the State of Kentucky to be registered nurses, just like you doctors are registered doctors. You know that the laity, as well as the profession, is imposed upon very greatly by nurses who say, "I am a trained nurse," when they never had one hour of training in any hospital, and to protect the nurses who have gone through the three years of training, we want a bill which will not allow these nurses to call themselves even trained nurses much less graduate nurses. This bill is not to increase the salaries of the registered nurses nor to decrease the salaries of those who are not registered. It is simply for the protection of us as nurses, and that is what we come before you for to-day. We want your endorsement of this bill. We graduate nurses get $21 a week for our services in Owensboro. In Louisville they get $25, in other places they get $25. If you want to employ an inexperienced nurse and pay her $50 a week, it is all right, but that nurse must come before you as an inexperienced nurse, and not as a graduate or registered nurse. It is simply for your protection and our protection. It is to protect us from things of that kind that I ask your endorsement of this bill, and we as nurses in Kentucky are not as far advanced as a great many of them in regard to this question. There are 47 states in the United States that have this registration, and we come now as the 48th and ask your endorsement of the bill. I feel that if the doctors will endorse us, if they will stand behind us we will have no trouble in getting this bill passed. If we have to fight our doctors, we are up against it. I ask you, as a nurse, who has been in the profession for 20 years, to support us, to endorse this bill as doctors and as men. I promise you, if you doctors will stand behind us and come up to Frankfort and fight for us, we will get the bill passed. I am not a suffragette. I do not even believe in equal rights. (Applause.) I do not want to get out and be in the same line with you men, because then I would have to fight. (Laughter). I want you men to do my fighting, and if you will do it, we will accomplish what we desire. I believe in women's rights, but I do not believe in equal rights. I do not want to get down on a plane with a man. I promise you, if you will give us your assistance and back us up, we will be not only the best nurses in the State of Kentucky, which means a great deal, but we will be the best nurses in the United States. Gentlemen I thank you. (Applause).

VICE-PRESIDENT HENDREN: What will you do with this matter?

CYRUS GRAHAM: I move that it be referred to the Committee on Legislation with power to act.

Motion seconded.

J. N. McCORMACK: I hope that this House of Delegates will give the principles of this bill its cordial endorsement at Frankfort, and representing your Association as I have several times, I believe it can be passed. I expect to be a member of the next Legislature myself. (Laughter). I am confident this bill will pass, and I am not only in favor of giving these women their rights, but I am a suffragette. (Laughter and applause). The women of Kentucky are now in a position with regard to education and public health and everything else that they can vote with the men, and then we can do things in Kentucky. (Prolonged applause.) Mrs. Davis did not say that much, but I hope to say it on the floor of the House next winter. I hope you will not refer this matter to the Committee on Legislation. If the House of Delegates will endorse it, I am sure the next Legislature will put it through.

D. M. GRIFFITH: I move as a substitute that the House endorse the principles of this bill and instruct the Committee on Legislation to work for its passage.

Motion seconded.

ALEXANDER SCAGGS: I would suggest as an amendment that this House of Delegates see to it that their representatives to the Legislature are instructed and urged to vote for the passage of such a bill.

The amendments were seconded, accepted, and the original motion as amended was carried.

There being no further business to come before the meeting, on motion, duly seconded and carried, the House of Delegates adjourned *sine die*.

ARTHUR T. McCORMACK, Secretary.

THE FORUM

Mr. President and Gentlemen of the K. S. M. A.:

Greeting:

Did you ever receive a picture post-card in your life from a friend who was traveling which did not bear this message: "Having a lovely time; wish you were here?"

Now is the time to come west of the Rockies and take a bath, whether you need it or not. Drown all your troubles in the briny waters of the Great Salt Lake, which is seventy-five miles long and fifty miles wide.

I know that many so indulging will carry away in the pores of the body some of the salt with which the lake is abundantly supplied; the unintentional theft, however, will only add to the physical vigor.

After the "douching" you may engage in the dance on the mammoth floor of the pavillion which will prove the most entrancing recreation a Kentucky doctor will ever experience in that class of amusement. The orchestral music is heavenly, and as Jane said, "Music is a sort of holy of holies in the tabernacle of one's inner being. And it is not easy to lift the veil."

It is with great pleasure that I give you a word as to the "Bath" and the "Dance." I am reminded of the advice which the Old Scotchman gave to his son who was about to go into the country to preach. He said, "John, don't preach very much about the things that the people know more about than you; if you do they will naturally conclude that you know nothing about anything." Possibly, from my experience, I ought to talk very little about the before mentioned "delights;" however, I will stand on the beach at Saltair, shivering, while you keep your pericraniums, safe and sound, in the ether above the Salt Sea. Come and be convinced. After which go with me to the Tintic district.

No other mining region in Utah—perhaps none in the West—has such a wonderful or uninterrupted record of ore production, or such a large number of ore-producing mines.

The nearest practicable estimate of the ore produced by the Tintic mines, since the first claim—the Sunbeam—was located in 1869, is $133,294,161.

We are right up-to-date. The swiftly moving train, with its modern equipment and palatial furnishings has replaced the slow-going stage-coach; the telephone and telegraph have annihilated distance and made possible immediate communication between the uttermost parts of the earth. Taken colectively the district has a population of 9,000 people. But, you Kentucky folks, with cattle upon a thousand blue-grass hills, care not for silver and gold in bullion and in quartz, as you have plenty in the banks already minted and may fling it to the fowls of the air when you so desire. Pardon the digression; I will not detail you with these rambling remarks further, but simply say a word about the profession and your society which is in convention assembled to-day.

It is an old society. No one of its present members, possibly, remembers when it was created. I saw without hesitancy and with due respect that it had a good ancestry and from its organization down to the present time, it has embraced in its membership the ablest and best men in the Commonwealth. Many of the most noted surgeons and physicians that Kentucky has had have been members of the Kentucky Medical Society.

But there are great contrasts between the time of the organization of the society and the present, or even between the period of our own membership, some of us, and to-day. I need not go into particulars.

I know you are keeping pace with the progress of the times and of medicine; yet you haven't reached your zenith. There is a struggle for professional survival, and it means practically the survival of the fittest, so that we are forced to believe that the future of the profession is to be perhaps far more brilliant than the present.

To me the K. S. M. A. is a source of professional pride. We are proud of what it has done for humanity in the past, proud of what it is doing at the present time, and judging the future by the past, we believe its future history will be brilliant with noble results. May its active members never be satisfied with the present but bear aloft its banner higher and higher as the years roll away.

I thank you for the invitation, which was extended me by Dr. J. G. Carpenter, to write you this epistle which seems to me like a "home-coming," and will close with my best wishes and this sentiment to the Fellows:

"Some for the Glories of This World; and some
Sigh for the Prophet's Paradise to come;
Ah, take the Cash, and let the Credit go,
Nor heed the rumble of a distant Drum!"

Yours unchangeably,

STEELE BAILEY,

Mammoth, Utah, July 16th, 1913.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 21 OCTOBER 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

THE VACCINE TREATMENT OF PERTUSSIS IN CHILDREN.*

By H. A. DAVIDSON, Louisville.

One hundred thousand children's lives snuffed out by whooping cough in one decade. That is what our vital statistics show, and that takes no account of the awful morbidity which results from the various complications of pertussis. During the past physicians have had very little to offer in the way of medical treatment and as a result many of the laity do not call a doctor until some complication has arisen.

It is true scores of remedies have been used at various times and some of them have been useful in mitigating the symptoms, but in the past there has been no specific treatment.

For many years it has been taught that it is both infectious and contagious, but the exact cause unknown. Many organisms have been isolated by various scientists and claims have been made that they were the specific cause of pertussis. Until 1905 when Bordet and Gengou discovered what is now considered to be the specific micro-organism of pertussis, none of the previously isolated germs had stood a thorough test. The pertussis bacillus is a non-motile rod with round ends of various size, one or two times as large as the influenza bacillus. It sometimes occurs in pairs with joined ends, rarely in chains. It give a negative reaction to the Gram stain. It is nearly always found in the plug of mucus that is brought up from the trachea or bronchi after a paroxysm of coughing in the early stage of the disease. It is very difficult to obtain the initial growth of the organism on any medium but it may be developed upon a special medium devised by Prof. Bordet. This consists of a mixture of potato extract, veal bouillon, physiologic salt solution and agar agar, to which is added defibrinated horse blood. This medium is rich in hemoglobin and upon it the growth of the organism appears as grayish white opaque colonies. After several sub-cultures the organism becomes more hardy and it then may be grown upon the ordinary media, but especially upon ascites bouillon. To determine the pathogenesis of the organism experiments were made upon monkeys by Klimenco and a typical whooping cough was produced by an insufflation of a culture of the bacillus pertussis (Bordet).

It has been shown that the blood of convalescent patients will cause an agglutination of the Bordet bacillus in high dilution. The complement fixation test established by Bordet, Graenkel and others also aids in establishing its causative relationship. Bordet injected large doses of the vaccine prepared from pertussis bacillus into twenty children who had been exposed to whooping cough and in every case a profound negative phase was produced which resulted in the development of very severe cases of pertussis.

All of the above evidence tends to prove that the organism discovered by Bordet is the specific cause of whooping cough. During the winter and spring of 1911-1912, the writer had charge of an epidemic of whooping cough among the children of the Kentucky Children's Home. There were altogether more than fifty cases developed during the epidemic. In the beginning the cases were treated with drugs that had given the best results in such cases. The nurses in charge of the children were worn out attending to the younger patients during the numerous paroxysms. Through Dr. Bolling, the scientific research representative of Parke. Davis & Co., I heard of a vaccine made from the bacillus pertussis discovered by Bordet. It being in the experimental state, he offered to supply me with all I could use. The vaccine furnished me was prepared in the following manner. The organisms were grown in quantity on ascites agar inclined, removed with salt solution and shaken. The number of bacteria per c.c. was determined according to the method of Wright after which the suspension was diluted to the proper standard and preserved with 0.2 per cent trikresol. The original vaccine contained 20,000,000 dead bacilli per c.c. I commenced injecting the vaccine in all cases at various stages of the disease and in children of all ages from a few weeks up to eighteen and twenty years. The infants received 1-3 c.c. or about 6,000,000 and all others 1-2 c.c. or 10,000,000 for the initial dose. Within four days the infants received 2-3 c.c. or 12,000,000 and all others one c.c. or about 20,000,000. The above doses were given in the morning and upon returning the next morning, I was pleasantly surprised by the reports from the nurses who stated that many of the children coughed less during the night. I instructed them to discontinue all other medication so that we could better watch the effect of the vaccine. Upon returning the second morning I was astonished at the unusually good reports from the nurses. The number of paroxysms in nearly every case was greatly reduced and a few had no paroxysms at all during the night. After getting such brilliant results I determined to try it upon several young children who had developed broncho-pneumonia as a complication. In these cases, however, I got no good effects whatever, the complication not being benefitted at all. I believe I understand now why the results were not good in these cases and why they need a different vaccine. In fact it has been shown that the pertussis bacillus disappears early in the paroxysmal stage and that a mixed infection of various germs causes the later bronchitis and broncho-pneumonia. This would suggest the use of a mixed vaccine in the later stages. I have used such a mixed vaccine in one case only with good results. This patient had received four doses of the pertussis vaccine at four day intervals which controlled the paroxysms fairly well, but a bronchial cough continued. One-fourth c.c. of a mixed vaccine containing bacillus pertussis 50 million; staphylococcus aureus, 20 million; streptococcus pyogenes, 10 million; micrococcus catarrhalis, 30 million, was injected and within twenty-four hours there was a marked change in the cough which soon subsided.

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*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

As to the value of pertussis vaccine as a prophylactic, I can produce very little evidence. One infant ten days old was given 1-3 c.c. upon arrival in the home. It was afterward exposed constantly to the infection. Within a week it developed a slight cough, not paroxysmal, which quickly subsided. She was given the doses of vaccine four days apart, first, 1-2 c.c.; second, 2-3 c.c.; third, one c.c. or 20,000,000.

The vaccine on the market now contains 50,000,000 bacilli per c.c. and relatively larger doses are given for curative effect.

Altogether in hospital and private practice I have treated about seventy cases of whooping cough with the vaccine with uniformally good results, in many cases brilliant results. To illustrate the treatment will cite three cases in private practice.

CASE I.

Mary E. B., age 3 1-2 years, whooping cough, had been coughing for three weeks had whooped for three nights. One-third c.c. of pertussis vaccine (about 7 million) given, four days later 20 million; whooping ceased, cough less, gave third dose four days later of 20 million. Complete recovery.

CASE II.

B. B., little boy, age 2 1-2 years, early stage of whooping cough, coughing and vomiting for ten days. Gave 1-2 c.c. of pertussis vaccine (about 7 million), four days later gave 20 million, complete recovery.

CASE III.

Baby, age six months, first stage of whooping cough, gave 1-3 c.c. of pertussis vaccine, (about 7 million) and second dose four days later of twenty million. Rapid recovery.

There is practically no reaction either local or general following the injection of the pertussis vaccine. There is a slight reaction both local and general following the introduction of the mixed vaccine. One-half c.c. or 25,000,000 is considered a safe initial dose to be followed in four days by one c.c. or 50,000,000, and four days later another 50,000,000. As a rule three doses are sufficient to cure the whooping cough. If a cough continues after three doses then give 1-4 c.c. of the mixed vaccine and if this does not stop the cough look out for tuberculous glands and make the tests for tuberculosis.

As a rule no other treatment is used for the pertussis excepting in the earliest stages before the vaccine shows its effect when a solution of strontium, bromide gr. v; antipyrin gr. ii to on dram; aqua destillata or aqua menthae piperitae is given every three or four hours especially at night. The writer has had such uniformally good results from the vaccine treatment that he heartily recommends it to the general profession as the best known treatment for pertussis.

DISCUSSION.

Lillian H. South: I have here a package of pertussis bacterin supplied by the State Board of Health. It costs $1.20 if you order it through the State Board of Health. The initial dose is 25,000,000 of the bacillus pertussis. I also have a culture of the bacillus pertussis in the laboratory, and if you will come to the laboratory at 8 o'clock, I will show you a stained specimen of this germ. Treatment of whooping cough with this serum has proven satisfactory in my hands. I have treated 15 cases. If you see the child late in the disease it is better to give a large dose. In one severe case I began with D syringe, 200,000,000. As you know a great many mothers do not consider whooping cough a serious disease, and they do not call a physician until the child is very ill. You usually give syringe A and repeat it every two or three days. If the child has a very severe infection, it is well to give the serum every other day. For the prophylactic treatment, I use the same package that I use for the beginning dose, and giving it every five or six days. There has been no reaction manifested in any of these cases.

The pertussis bacterin contains bacillus of influenza, streptococcus, pneumococcus, staphylococcus aureus, and the staphylococcus albus.

Phillip F. Barbcur, Louisville: I have been treating cases of whooping cough with pertussis vaccine for nearly two years, and I must say I have gotten sometimes very brilliant results with it. The earlier it is administered, the better the results are going to be. I have not seen such favorable results after the whooping has been established as I have seen when it was started before the cough reached that stage. It would seem that the germs tend to lose their virulency or usually disappear early in the pertussive stage. A culture has to be made from the organism obtained from the throat, and practically at the beginning of the whooping in order to be able to make the culture at all. I understand from the bacteriologist, that after they have whooped for two or three weeks it is impossible to get a culture of the Bordet bacillus. This may be the reason why we fail to get as good results in the late stages of whooping cough as we get when it is administered earlier.

My own experience this summer in using pertussis vaccine in large doses has been very much better than at first when I used it in smaller doses. As a rule, I give 50,000,000 as an initial dose, repeating every fourth or fifth day. There are some cases in which the vaccine does not seem to give the results that we desire. It is not a specific in all cases, and the reason for this is one of the things that has to be determined by the bacteriologist. There may be complicating organisms that interfere with the action of the vaccine in some cases, that are not present in other cases.

There is something more to learn in the treatment of whooping cough with vaccine before we can pronounce unreservedly favorably in regard to it.

EPIDEMIC ANTERIOR POLIOMYELITIS.*

By Philip F. Barbour, Louisville.

Anterior poliomyelitis is becoming more frequent in this country. While it has always occurred in sporadic cases in the larger cities, it is now beginning to spread to the small towns. The experience in Sweden would indicate that it may become common throughout the rural communities. It is one of the most distressing of all the diseases of childhood. Its increasing frequency, its irremediable damage requires that we be thoroughly acquainted with all the phases of its manifestations.

The whole nature of the disease indicates that we have to deal with a living organism or virus, which is so small as to be beyond the range of the microscope. A culture from the spinal cord of an infected monkey will produce a peculiar growth upon the culture medium, under anaerobic conditions which will transmit the disease. It is not, however, separable under the microscope into recognizable organisms. The virus is very virulent as shown by the fact that a minute particle is able to produce the disease.

The mode of infection is gradually being made clear by numberless experiments. It is not possible to follow the virus in its extra human habitat. It is very resistant to cold and to ordinary heat and sunlight. Certain agents such as hydrogen dioxide, thymol, etc., render it inert very easily. It seems most probable that it is carried in the secretions of the nose and throat, not only in those who have shown frank evidences of the disease but also certain others who have had the disease in abortive type, or who have simply been exposed to it. We have every reason to believe that the infectious material enters the subarachnoidal space through the mucosa of the rhino-pharynx. It seems to pass through the lymphatics of the olfactory nerves and from there attacks the nervous system. It is also demonstrated that the virus is carried out of the cranial cavity by these same lymphatics so that it is deposited upon the mucous membrane from which it may be expectorated or in some other manner conveyed to other people. The mucosa has been known to retain the virulency for six months, which should be a caution to us against exposing young children to recent cases of the disease. The virus may also travel up any nerve trunk, as the sciatic, and possibly through the lymphatics draining the gastro-intestinal mucous membrane. As to the mode of infection the evidence is rather against the stable fly but more favorable to the house fly and the bed bug though none of these can be considered the usual or even the remote rout of infection. It is highly probable that carriers will be found who have had the disease in the abortive type with complete recovery and who are not aware that they have had the disease.

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*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

Anterior poliomyelitis begins with indefinite symptoms, sometimes referable to the gastro intestinal system at others simulating malaria, or with even less definite syndromes. There may be a temperature up to 103 F. for several days without any localizing symptom before any paralyses are noted. Sometimes the child goes to bed apparently perfectly well and wakes up paralyzed, without having had prodromal symptoms, in fact with the exception of an exaggerated twitching of the limbs sometimes observed, or when there is an epidemic, the physician is not apt to be warned, or to suspect any such serious disease until after the paralysis has occurred.

"The pathological effects are of two kinds: injury to nerve cells not in the anterior gray matter alone but in the posterior gray matter of the spinal cord and in the intervertebral ganglia, medulla and brain; and cellular invasion of the pia arachnoidal membrane of the spinal cord and medulla that follow the blood vessels into these parts and pass into the adjacent gray and white matter. The altered vessels permit an escape of albuminous fluid and blood cells into the meshes of the membrane where they mingle with the cerebrospinal liquid and into the spaces in the tissue composing the solid white and gray matter. Sometimes the nerve cells, sometimes the meninges, vessels and supporting tissues suffer most. When the nerve cells are extensively injured the paralysis is marked; when the meninges are much affected the symptoms are like those of meningitis. When virus of poliomyelitis displays a high affinity for nervous tissues, but it is the wide involvement of the nutritive vascular system in the pathological process that subjects the sensitive nerve cells to so high a degree of injury and destruction."—Prof. Simon Flexner, *The Lancet*, November 9, 1912.

As the lesion is at first almost purely vascular, we should expect an abrupt onset. The exudation of cells and plasma, amounting at times to a small hemorrhage produces pressure upon the walls of the nutrient arteries and blocks the flow of blood to the nerve cells. If the pressure persists long enough there will be death of the large, multipolar cells to which they furnish nutrition. The exudate by pressure upon the lateral columns inhibits the passage of nerve stimuli from the brain through the lateral column to the spinal cells below. The pressure upon the nerve fibres will do little harm for absorption soon takes place, but interference with nutrition of the multipolar cells rapidly results in their death and slow degeneration.

As a rule the first paralysis is the most extensive, involving at times both legs and arms. Rarely are the nerve centers of the muscles of the thorax and trunk involved, and the centers of defecation and micturition are practically never injured. From the time of onset there is a gradual clearing up of paralyzed areas until there remains only a relatively few permanently atrophied centers. Occasionally there may be an increased paralysis coming on several days after the onset of the symptoms and there are cases on record of subsequent reinfection.

The diagnosis of anterior poliomyelitis is not difficult under ordinary circumstances, but there are a number of points to be kept in mind for differentiation. These may be grouped under six heads:

1. Other forms of paralysis, of cerebral, spinal or peripheral origin.
2. Paralysis following diphtheria, meningitis, etc.
3. Paralysis following the use of drugs such as arsenic, alcohol, etc.
4. Pseudo paralysis of Rickets, marasmus, syphilis, etc.
5. Deformities either acquired or congenital such as club feet.
6. Atrophy and disability due to inflammatory changes in limb or joint.

Paralysis of cerebral origin is due to apoplexy or to embolism, each of these is rare in childhood. In cerebral lesions the reflexes are exaggerated while in anterior poliomyelitis the reflexes are abolished. There is no atrophy in cerebral diseases and the paralysis is spastic and not flaccid. Contractures occur only late and following the atrophy in anterior myelitis. The electrical reaction shows a response to faradism in cerebral lesions. There will be some failure of mental development in any well defined lesion of the brain and oftentimes when no localizing symptoms are noted.

Spinal cord lesions are usually easily differentiated. Transverse myelitis is marked by loss of sensation as well as motion by the loss of control of the centers of micturition and defecation and by a tendency to bed sores.

As regards the compression changes following Pott's disease, there will be an increase of reflexes and loss of control of bladder and rectum. There are also the local symptoms to aid. Progressive muscular atrophy is a progressive rather than a regressive disease and is very rare in children. Pseudohypertrophic paralysis is so characteristic as to offer no diagnostic trouble. Hemorrhage into the cord is the result of a trauma and the subsequent history will be of help in the diagnosis.

Peripheral neuritis is so similar in symptoms and electrical reactions as to be most difficult of separation but usually there is a marked sensory disturbance, but even this is not conclusive as we often see quite marked sensory disturbances when the area of infection of the anterior poliomyelitis is extensive and severe. This alone can assist us especially in the very young patients.

In diphtheria the history of the case and the involvement of the muscles of the eye and throat should make mistake difficult. In meningitis the history and the spasticity of the paralysis should be sufficient.

Rickets sometimes produces so much soreness of the muscles and bones as to prevent the child's walking without great pain and there may also be a tetany of severe type which should simulate paralysis. The great weakness of marasmus or following any other wasting affection might mislead one that was not careful. Scurvy produces so much pain that the child will not move the limb and the pseudo paralysis of Parrot's may also be kept in mind. Tuberculosis of the hip simulates a paralysis but is recognized by its characteristic symptoms. The various deformities such as club feet, congenital sublaxation of the hip, etc., should not be disturbing factors in the diagnosis.

One need hardly be on the lookout for alcoholic neuritis or scleroses in children. Arsenic which sometimes in toxic doses may produce paralysis can be ruled out by the characteristic color, adenia, etc.

The prognosis will be indicated by response to the electric current. As long as there remains a response to the Faradic current, there is hope of regaining the power of motion for that muscle. It may be necessary to continue Faradism for two years, but as long as there is response to that current we should be hopeful of making progress.

The treatment must be adapted to the stages of the disease. At the outset we should attempt to lessen the congestion of the cord by any means available. The application of counter irritants will bring the blood to the surface and away from the congested area. Ice to that portion of the spine where there is inflammation, general mustard baths frequently repeated should help for the degenerative changes in the gray matter and in the ganglion cells result largely from the congestion and the infiltration around the blood vessels, therefore anything which will take the blood away will lessen the damage done. Rest in bed is obligatory. Purgation with salts will deplete to some extent. Ergot has been recommended to reduce the size of the vessels, but it does not effect much. Atropine by sending the blood to the periphery should prove helpful, in doses enough to redden the skin.

One recognizes that it is impossible to restore the dead multi-polar cells and therefore we must address our efforts to repairing the damage that has been done. The absorption of the lymph and effused elements around the spot of the thrombotic zone of infiltration may be facilitated by the liberal use of the iodides in such form as to bring least trouble upon the digestive organs.

The use of electricity on the nerves and muscles offers more help and hope than any other agent. There is much difference of opinion as to the best time to begin the use of electricity, but it would seem unwise to use any current upon the spinal centers until they have reacted from the trauma and this will take from four to six weeks. Faradism and especially galvanism may be used on the muscles earlier in order to promote the nutrition of the muscle cell. Warm applications and warm baths are helpful all the time. When the active disease has ceased in the cord then the galvanic current may be carried through the spinal centers and through the paralyzed muscles for a few minutes every day or every other day may be persisted in for months as there is a possibility of good for a year or even longer. Some massage is helpful by promoting the circulation through the muscles. But it does not compare in effectiveness with the galvanic current in its effect upon the central cells in the cord. Strychnine and all other forms of tonics and general tonic medication should be continued.

Especial attention should be paid to the deformities which result from the atrophy and loss of control of the muscles. When one group of muscles is paralyzed the opposing group gradually undergoes contracture until the limb is often pulled out of shape in such a way as to destroy its use. The force of gravity is powerful for harm and one should watch against its insidious action, the prevention of contractures is far better than the attempt to correct them. Orthopedic surgeons have acomplished much by tenotomies, or by utilizing part of the tendon of a potent muscle to be inserted into the attachment of a paralyzed muscle. Anchylosis may save a frail joint and make a stiff joint that will enable one to walk. Various forms of apparatus have certain advantages at times.

In conclusion emphasis must be placed upon one anatomical fact. The blood vessel lesions are essentially horizontal while the cells in the anterior horns which control muscles or groups of muscles are arranged vertically in cigar shaped bundles. Therefore, the horizontal lesion may destroy only part of the essential cells of the muscles or the group of muscles and it may be possible to develop the rest of the muscle so as to do the work originally intended for the whole muscle to do or some of the associated muscles may be strengthened to do the work of the paralyzed one. Much can be accomplished by persistent insistance upon the patient's persisting in trying to use any muscle fibres that can be moved voluntarily.

No one has ever realized the possibilities of developing new tracts in the brain and cord. May there not be possible new synapses in the cord which can be developed by an overmastering will in the cerebrum? It is at least worth the trial.

DISCUSSION.

S. L. Beard, Shelbyville: Poliomyelitis is in its infancy, so far as treatment is concerned, and it is in its infancy so far as our understanding of it is concerned. We are just beginning to see daylight, and it is through the researches of Flexner and through the pathologic laboratories we are beginning to see daylight in the etiology, and we can with reason hope to expect something in the way of treatment.

I want to say one word with reference to the use of strychnine in this condition. We have here a disease of nutrition and impaired nutrition, a bad heart, one in which the blood pressure is materially interfered with. The continued use of strychnine will invariably do harm—in fact I do not know of a more dangerous drug than preparations of strychnine in this condition. Strychnine, contrary to popular opinion, is not a heart stimulant, in that it does not contract the arterioles, but expands them, and when given in this condition or any other condition for a continued period, it is almost, if not quite as dangerous as preparations of alcohol, and I want to condemn it most strongly. In the equalization of blood pressure lies our greatest hope. How are we to do that? First, by systematic rest—I mean after the acute symptoms have subsided. Second, by the proper application of hydrotherapy, by proper elimination, and not too active catharsis. Let us regulate blood pressure so as to improve the nutrition of the parts, for in that in my opinion lies our greatest hope until something shall have been done along specific lines.

John J. Moren, Louisville: It has been my misfortune to see a number of cases of anterior poliomyelitis, and there are two points I wish to draw attention to. In the first place, cases of anterior poliomyelitis we are meeting to-day are not the same kind that we met with fifteen or twenty years ago. You gentlemen who have practiced in the country saw these cases and they had absolutely no sensory symptoms. That was one of the characteristic features, motor symptoms without sensory symptoms. The cases of poliomyelitis to-day have sensory symptoms, and one of the characteristic features is pain at the onset along with the paralysis, and a particular characteristic I have noticed, particularly here in Kentucky, and after the fever subsides, is a marked hyperaesthesia of the paralyzed extremity. Every case I have seen in the past two years has shown this hyperaesthesia.

I saw a case the other day in consultation giving the classical picture of anterior poliomyelitis with paralysis of the left leg, and immediately after the fever subsided the patient complained of marked tenderness on that side, so much so that you could not touch it. I have never seen this in any other manifestation than in acute poliomyelitis.

In regard to the treatment no mention has been made of urotropine. It is known, and I believe accepted by the profession, that urotropine or formaldehyde, as it finally forms into, is the only drug that goes into the cerebrospinal fluid. You may give arsenic or mercury, but you cannot detect it in the cerebrospinal fluid. Urotropin is an antiseptic, if you can get such a substance in the cerebrospinal fluid it is the remedy we want. It is the drug that can be used in epidemics. In early cases I do not hesitate to use it. I have used it in other cases where the spinal cord was involved, and have never seen the results such as I have seen since I began its use. As far as electricity is concerned, the doctor made the statement that long continued use of the faradic current is of service. The galvanic current is the current to be used for a long period of time. The faradic current causes contraction of the muscle by stimulating the end plate of the nerve; galvanic causes muscular contraction by stimulating the muscle fiber itself. If the nerve cell or fiber is destroyed, there is no faradic contraction, but you have response to the galvanic current. That is spoken of as the reaction of degeneration. What is the use of employing the faradic current when you cannot cause contraction of the muscle? By the continued use of the galvanic current stimulating this muscle (illustrated by blackboard diagram) we may keep up that development, and instead of being supplied by one cell, there are two cells which hitch onto the nerve fiber. By stimulating this muscle and remaining fibers you may develop it to a useful muscle. It is the galvanic current that does that, and not the faradic; and the prognosis of anterior poliomyelitis depends upon how many of these cells are destroyed. If the whole group of cells are destroyed governing the supply to a muscle, it is absolutely out of consideration. You will never restore it. If there are one or two small cells remaining which furnish a supply to the muscle, you will get results, otherwise you will not.

E. D. Burnett, Louisville: I have enjoyed this paper and the discussion very much. I quite agree with the things that have been said, especially by Dr. Moren in regard to galvanism. There is one feature beyond that that might be mentioned, and that is, as long as we can get the mother to work with the child we have a ray of hope. I have a case under observation of a child five years of age. Through the faithfulness and persistency of the mother, the child is now able to stand. It had anterior poliomyelitis when it was a few months old. The galvanic current was used for two or three years judiciously. The mother has been carrying out instructed massage treatment three times a day. We have obtained a fairly good result in the last four or five months, the child having increased very materially in its strength. Evidently there has been a substitution on the part of some of the conjoined neurons as Dr. Moren has pointed out, these responding to massage and care day after day. It is a slow, tedious process, and takes the love and patience of a mother to stick to it and carry it out.

A. C. L. Percefull, Louisville: Along the line of deformities coming from infantile paralysis, I would like to utter a word of warning to family physicians. We all know that mothers when confronted by these conditions are over anxious. We know that they grasp at every straw, because it is awful for them to think that the child is going through life with a deformity. It is this great anxiety of the mother that sometimes exaggerates the deformity coming from infantile paralysis. This is brought about very largely by taking remedies from each family that recommends or prescribes a remedy, and by using this battery and that kind of massage you de(velop muscles that are not paralyzed. You overdevelop them under the general massage and you hasten the deformity that is caused by paralysis of the opposite muscles. I would like to issue that word of warning. If you will be careful in using general massage in a case of infantile paralysis, and not use any kind of battery promiscuously, you will get along much better. If you select a muscle that is paralyzed and massage it, be careful in doing so. You may massage the muscle that is not paralyzed, and therefore hasten the deformity and make it much greater. If you can select a muscle that is paralyzed and supply the galvanic current, you may do some good, but if care is not exercised in giving massage in these cases, you will give them more than they can stand, you will hasten the deformity and make it much worse.

Ap Morgan Vance, Louisville: I have had a good deal to do with these cases of anterior poliomyelitis for many years, and I want to speak particularly upon the use of artificial ankylosis, and also to add to what Dr. Percefull said about the over-stimulation of the muscles that are left, and thereby causing them to become stronger and affording a greater chance for deformity.

My experience has been that when infantile paralysis improves it is through nature's efforts, and all the work we may do is thrown away until it comes to the question of deformities. I do not believe in the use of electricity nor in massage very much, for the reasons stated by Dr. Percefull, and I do not believe that they do very much good. The cells of the spinal cord and the muscle supply are destroyed, therefore you cannot do much good by those agents. If we can put the muscles to use we can bring about better results than by any other method of treatment.

As to the formation of ankylosis at the knees or ankle, many years ago I got a hint from some foreign medical journal; I think it was an assistant of Billroth who suggested it, and I early tried it. It was very hard to get the patient's consent to do this in those days because we were uncertain just what the result would be. I lost two cases the patients being 15 and 16 years of age, from the fact that the bone and marrow took on degenerative changes by fat, and fat emboli occurred which killed these two patients. When I stated to the people that two patients out of eight were lost, and that these operations were for convenience only, I could get the consent of very few. We can now resect the knee with impunity with little danger, and close it up in plaster and not look at it for three or four months. That operation ought to be looked upon with favor in getting rid of apparatus.

I have quite a number of patients who have gone through life and have become useful members of society that would have been hopeless cripples if it were not for operation on the joints and making synostosis. I believe apparatus is often used in well-to-do people to a disadvantage, because a child can often walk better with a certain amount of deformity than it can by having the limb held straight in an apparatus. Good shoeing is a desideratum.

H. M. Boxley, Kirksville: For the benefit of the country practitioner, I would like to state that I believe it would be wise to use the drug Dr. Moren mentions, namely, urotropine. I have pinned my faith to it and if you use it you will certainly get results from it.

J. T. Dixon, Owensboro: Dr. Barbour has given us a very instructive paper on a most formidable disease, a disease that leaves our little patients crippled for life. In a large percentage of the cases we fail to recognize the disease until the paralytic symptoms are manifest, and since it is infectious it is important that we study most carefully the prodromes and early symptoms, so that we can properly isolate the case and prevent its spreading. One of the earliest symptoms even in the mildest cases is periodic muscular tremor, and nervous twitching, this together with extreme hyperesthesia a tendency to sweat, even with high fever, and in many cases a diarrhea, should in a child under 5 years of age strongly suggest poliomyelitis. The laboratory findings should complete the diagnosis by exclusion.

The seasonal prevalence is of diagnostic importance, because cases of poliomyelitis are extremely rare from December to June, beginning in July, increasing in number to October. It is a striking fact that the advent and duration of infantile paralysis corresponds to the life cycle of many of our blood sucking parasites.

Since poliomyelitis is a transmissible disease, it is of the utmost importance that the mode of transmission be ascertained. Important research work is now being conducted by eminent workers along different lines. There are many theories to account for the spread of the disease. The chief ones may be summarized under three headings: First, that it is a contagious disease and may be transmitted from person to person through secretions from the mouth and nose. Second, that it is an insect borne disease. Third, that it is an alimentary infection, the virus being taken in through food and drink.

There can be no doubt but that poliomyelitis prevails in rural localities rather than in the cities; when it does invade the cities it does not strike the crowded congested portions as does all other contagious diseases originating from the secretions of the mouth and nose. It has been noticed that children in all stages of the disease were taken from crowded schools, institutions, tenement districts, and other places where there was every chance for the spread of the disease, but it did not spread there, but it did spread in the rural district where one would not expect to find contagious diseases. What are we to infer from this? That country children are exposed very much more strongly to the disease simply from the reason that country children are far more subject to the bites of insects, flies, the stable fly, a proven carrier as demonstrated by research workers in certain experiments with monkeys. While the fly may not be the only carrier, it is most likely one. Dr. Saunders of St. Louis University, has associated the limber-neck disease of chickens as a possible source of infection, with the fly as a carrier.

THE IODIDES.*

By John Whittington Gilbert,
Lawrenceburg.

Potassium iodid, and its many uses, is the first thought suggested by this subject, showing that we are more or less creatures of habit, as the other salts are often more strongly indicated to meet the case at hand, than the potassium salt. We must remember that sodium salt, although it has to be given in larger doses, will often be tolerated where the potassium salt will not. We have relied on potassium salt in the past as our principal remedy for tertiary manifestations of syphilis, arteriosclerosis, goitre and other conditions that require alterative treatment. At the present time it is still our mainstay in these conditions.

Strontium iodid, rubidium iodid, ammonium iodid, and the hydrogen or hydriodic acid are the preparations of the iodid that are used. Although claimed to possess some advantages over the potassium salt, the first three named are used but very little.

Hydriodic acid in the form of a syrup is much used especially in asthma of the bronchial character, bronchitis and other conditions requiring a prolonged alterative treatment. The syrup of hydriodic acid is put on the market by a great many of the pharmaceutical houses in a palatable form and is not so offensive to the stomach as the various solutions of the salts. The principal objection to prescribing the syrup of hydriodic acid is its chemical instability. The same objections can be urged against the ammonium salts, although the weakness of the combination between the ammonium and the iodid makes this salt quicker and more energetic in action than the other salts.

The potassium salt in saturated solution is the usual and most convenient way of prescribing the iodids. By the use of the dropper we can accurately gauge the amount we are giving.

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*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

My practice is to prescribe the saturated solution and then place the dose to be administered in the vehicle at the time it is given. When you are giving the iodids to control the tertiary manifestations of syphilis, this is an excellent way to prescribe them as you can accurately increase or diminish the dose to the exact amount necessary for its therapeutic effect.

The best time to give the medicine is after meals and according to Keyes, preferably about three-hours afterwards. If your patient exhibits a great deal of tolerance for the iodids and it is necessary to get your effect quickly, then give your dose at shorter intervals than would elapse between meals.

In administering the iodids, we often have to go beyond the point of tolerance in order to get the desired therapeutic results. This of course gives rise to the bad effect of the iodids. We see these bad effects in persons with an idiosyncrasy, from very small doses. These bad effects are many; outside of the well known coryza symptoms and tenderness of the gums, we see general depression, neuralgic pains, tinnitus aurium, swelling of the mucous membranes of the mouth and larynx, pain in the abdomen also loss of appetite and several forms of skin eruptions.

I had an occasion to administer the syrup of hydriodic acid to a young man. An hour or two after the first dose of one dram his face and neck swelled to an alarming extent, with no other bad effects. No more of the acid being given the swelling disappeared in twenty-four hours. A year or so later I gave the same prescription to his older brother with identical results.

A niece of these two patients after taking two or three small doses of iodids, had a number of erythematous swellings over the surface of the body which disappeared when the iodids were discontinued. This is the only occasion in which I have had the opportunity to observe the idiosyncrasy to the iodid occurring in several members of the same family.

When giving iodids in large doses or even over any length of time it is my practice to administer at the same time arsenic in the form of Fowler's solution. I do not give them in the same prescription but give them separately, generally giving to an adult three-drop doses three times a day. It not only seems to increase the patient's tolerance for iodids but presents some of the bad effects.

As to the various morbid processes, in which the iodids are used as a remedy, they are legion. One authority goes so far as to say, "When in doubt give the iodids." There are numerous conditions in which the iodids are indicated above all other remedies as a curative agent, the tertiary manifestations of syphilis, especially in the cerebral forms, arteriosclerosis, in its numerous forms, goitre, actinomycosis, and aortic aneurysms, rheumatism and arthritis deformans are often benefited by the long continued use of the iodid. The best treatment in mercurial poisoning and other chronic metallic poisonings is the iodid. Chronic nephritis seems to be retarded by small doses given over a long period of time.

Locally, a strong saturated solution of the iodid of potassium applied constantly to a contusion or sprain seems to promote the absorption of the exudates. In tonsillitis and other forms of sore throat a weak solution of the iodids is a good gargle.

Any time that we diagnose the condition where products of an inflammatory process have been left behind, we have recourse to the iodide to promote absorption in aneurysm, it benefits by causing a fibrinous deposit within the walls of the sac, which action seems in direct antithesis to its action in other conditions.

As to the manner in which the iodides act, we see by the foregoing that their action is absorptive.

Capps, of Chicago, in discussing the effects of the iodids on the circulation and blood vessels in arteriosclerosis, came to this conclusion: "The iodides probably owe their beneficial influence in syphilitic arteriosclerosis to the absorption of the cellular exudate in the arteries. The absorption may be brought about by the formation of a proteolytic ferment which is created by the union of iodide with antibody, and which has a selective action on the luetic cellular exudate. It is possible that this selective digestive action may be operative to a lesser degree on the cellular exudate in arteriosclerosis due to other causes than syphilis."

There are numerous theories as to the manner in which the iodides act. All of them have to do with the exact way in which the iodids exert this absorbtive action. We do know that they exert this absorptive action, further than that we are in the dark, although Capp's conclusions are well borne out by the fact, they remain to be proven in detail. Our knowledge of their action is, therefore, purely empirical.

We thus have no method of measuring accurately the amount of iodide for the benefit or cure of any given pathological condition, therefore we must give the iodide and watch closely its effects.

We get our most satisfactory results from the iodid in the tertiary form of syphilis.

The iodid of potash has been an unusually satisfactory drug in my hands in syphilitic brain trouble. I have had several cases where the onset of symptoms has been sudden and alarming. The iodids given in rapidly increasing doses, readily control the symptoms. You must not procrastinate: Small doses often have no effect whatever but larger doses, one-half to two ounces in twenty-four hours, act nicely. One patient with convulsions occurring at short intervals and convulsive movements present all the time, with its specific history, took two hundred and fifty grains at a dose, four times in twenty-four hours over a period of a week with a perfect recovery from convulsions and convulsive movements. The dose was then rapidly reduced, and other ordinary therapeutic measures usual in such cases were instituted. This patient suffered little from the ordinary bad effects of the medicine.

In similar conditions as above we get our most brilliant results from the use of the iodids.

In conclusion, we will still use the iodids in the condition where they are indicated in a routine manner.

But in the brain lesions of syphilis, we get our best results from the use of the iodides, if they are given in the proper manner and watched carefully.

TREATMENT OF TYPHOID RIB.*

By Newton Evans, Murray.

The most frequent pathological sequella of typhoid fever is osteomyelitis of some of the larger bones. This appears to be invariably caused by a simple infection with bacillus typhosus. The most frequent location of these lesions are the tibia, the ribs, costal cartilages and sternum. It has happened that I have not seen any of these infections of the tibia, but have seen at least two cases in which this specific lesion was found in the ribs and costal cartilages.

This bone lesion usually appears several months or even years after recovery from typhoid fever. Almost invariably the bacteriological examination of these lesions shows a pure culture of the typhoid bacillus with no mixed infection, even after the sinus has been open upon the cutaneous surface for months or years, which seems rather remarkable. The occurrence of these lesions after the recovery from the acute typhoid infection receives some explanation from the fact that the presence of the typhoid bacilli has been demonstrated in the bone marrow of persons some weeks or months after recovery from the fever, even when there are no visible pathological changes present.

So far as my personal experience and knowledge of these cases of typhoid rib go, they have been difficult of cure, and frequently resist apparently faithful treatment for months or years, and in the absence of treatment probably would continue indefinitely as a gradually spreading osteomyelitis with open sinuses upon the skin surface. Of course this persistence is not confined to typhoid lesions of the bones, as many cases of osteomyelitis from pus infection are seen which last for a score of years or a life time.

HISTORY OF CASE.

A man, R. F., thirty years of age, of spare build whose previous history is unimportant as far as the present disease is concerned, had an attack of typical typhoid fever, beginning April 1, 1912, and was dismissed May 19, 1912. The disease ran an ordinary course, the temperature reaching 104 to 104 1-2. June 12th, about three weeks after his recovery from the fever, the patient noticed a slightly painful swelling on the front of his chest about three inches to the right of the left nipple and slightly below the level of the nipple. This gradually increased in size and soon showed signs of fluctuation, and on July 1st, about eighteen days after its appearance was opened by his attending physician. After several weeks the opening still discharged a thin bloody pus and refused to heal. During the following months the physician made numerous efforts to bring about a cure of the lesion by carefully curetting the sinus and making topical applications, but without results. In the following January, under my advice, the patient was put upon repeated therapeutic doses of typhoid vaccine, but without any results as far as curing the osteomyelitis was concerned.

Finally in February, 1913, the patient was taken to the hospital and under general anaesthesia the diseased rib was exposed and four inches of rib and costal cartillage (the 6th rib on the left side) apparently including all of the diseased bone and cartilage were thoroughly removed by currettage followed by application of pure phenol and this followed by alcohol and then packed with sterile gauze impregnated with tincture of iodine, one-half strength, and the wound closed except for a drainage opening near the middle of the incision.

Preceding and following this operation active treatment was continued with typhoid vaccine. The wound apparently healed well for a time, but soon a second sinus opened in the course of the line of suture and the original drainage opening continued to discharge.

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*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

It became apparent in four or five weeks that the process was still acting and would not heal. A second operation was then advised and undertaken with the idea of making the resection of the rib so extensive as to go well beyond any portion of the rib of its cartilage which could be by any possibility diseased. This was accomplished by completely removing a portion of the rib six or seven inches in length beginning at its attachment to the sternum .

The wound properly healed and recovery was complete. The repeated failures to cure the condition were due to the fact that in none of the efforts to remove the diseased tissues had the diseased bone and cartilage been completely eradicated. The essential requisite was to get rid of all of the diseased bone and cartilage which was accomplished at the last operation.

The points to which I wish particularly to call attention, are these:

First, the entire failure of the vaccine to have any effect upon this lesion.

Second, the ineffectiveness of any surgical procedure which did not completely remove all of the focus of osteomyelitis.

Third, the prompt and complete recovery following such complete removal.

THE DISEASED DOMESTIC.*

By Edgar Duff Burnett, Anchorage.

Mankind has become intoxicated with the thrift and maddening rush of the 20th century. Yea, men, we are rainbow chasers, and many of us are pursuing false gods.

Without an exception we are whooping up the Pure Food Propaganda, and 'tis well—or heedlessly promulgating serum therapy, shall I say to great commercial gain of pharmaceutical and chemical concerns?

Our wives and sisters are rushing forth amid banners and cheers galore to a suffrage meeting—in fact woman's right of suffrage will be a Divine blessing to some select downtrodden men—or we read where the Colonial Dames of local fame are championing the cause of social ethics.

What is the trouble?

'Tis not the tariff; not the middleman; not even the butcher; and by no means the high cost of living.

We are too prosperous, we have too much money to spend; too many gilded dens of allurement to call the father and mother away from the nursery and home building.

Our prosperity brings about substitutions: the butler, the chauffeur, the coachman, the milkmaid, the wet-nurse, or worse still the careless bottle-feeding nurse, the cook and the maid. And the demand in our southland in domestic work is the negro.

We are very much concerned that our canned goods be not preserved with benzoate of soda, and that our eggs be not packed longer than one year, and that our meat be free from tuberculosis, or that our milk be certified.

What *guarantee* have the babies, the small children or the adults of the well-to-do Americans against the diseased domestic?

In the rush to meet social engagements or to attend a directors' meeting the small, helpless ones receive second class or third class care and attention. How many families, to your certain knowledge, require a health certificate of a servant before turning the kitchen, the linen, the cow or the baby over to a careless, shiftless present day domestic? Is there a single record of any such requirement?

In one home you find the tubercular mulatto house-maid—and we know how rapidly the negro succumbs to this dread disease—handling the linen, making beds and putting away clothes, and at the same time with each slight paroxysm of coughing depositing an attractive colony of bacilli for your wife to exhibit at the next party, or for you to digest, having charmed the same from your beautiful white napkin.

In another home may be found the ubiquitous and indispensable nurse—at least the wives of our proseprous patients have so elected with her buccal cavity studded with pearls of syphilitic ulcers kissing the darling baby, helping No. 2 drink his rich, pure, home grown, jersey milk from his richly engraved silver cup, or yet licking into quiet the bleeding scratch on the small boys finger.

And yet another time we find the immaculate waiter, being hastily summoned to serve, emerging from the water closet and entering the dining room with his hands surcharged with myriads of active gonococci. These are carefully deposited on the clean white towel that he uses in wiping out your plate, or some may be lodged on the silver, and yet some chance to get on your napkin.

There is your constellation. Aside from tuberculosis, syphilis and gonorrhea, there may be diphtheria, cancer or other dangerous and revolting diseases in concealed form.

In what skies shall we look for a more amazing galaxy savoring of prostituted health and death?

The diseased domestic is verily a bad menace to the happy home. Does such a challenge reflect credit upon our common intelligence? The clarion note rings true—we stand before the mighty battlements. Shall we with one accord rise and chant, "We stand at Armageddon and battle for the Lord?" what shall be done?

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

A brief history of several cases will add some color to the house-wife's helpless defense against the diseased servant.

CASE I.

In negro town there was an epidemic of mumps. I saw a case, a negro woman 20 years old. Her brother was employed in a prominent home where there was a boy some 12 years old. I advised the white people, patients of mine, not to allow the colored boy to go home for a limited period.

CASE II.

In another colored settlement an epidemic of diphtheria broke out. I was called to see a negro boy of 9 and a girl of 7 in the same family. The father was horseman and chauffeur for a prominent family, and the mother was laundress for still another white family.

I notified both families. The father took the necessary precautions and stayed at the home of his employer, and the mother discontinued her laundry work for the required length of time.

CASE III.

I saw a colored woman 30 years old with acute bronchitis. She gave a history of loss of flesh, malaise and an occasional night sweat. And, too, she had a subacute muco-purulent uterine discharge.

She was employed in a splendid home where there were two small children. I notified the mother to give the servant a three months' furlough. In three months improvement was so marked and satisfactory that she returned to her duties.

CASE IV.

A negro woman 39 years old. I first saw her when she had been in bed for a week. Temperature 101 2-5, tender abdomen, dry eruption, uterine hemorrhage, headache. All the acute symptoms cleared up promptly. Packing controlled the uterine hemorrhage only in part. Two months of mixed specific treatment cleared up the field. She was a domestic in a splendid home. Her mistress practically forced me to tell her the servant's trouble.

CASE V.

A cook and house maid in a family with three small children. She complained of sore throat of six months standing. An examination revealed a veritable picture—the pharynx and soft palate were studded with syphilitic ulcers. Protiodid of mercury cleared up the sore throat in twelve days. This woman acknowledged kissing the children and using the same drinking cup. I advised the parents of the danger and examined the children.

CASE VI.

A man with acute gonorrhea. He was house man and waiter. I did not notify the family—there were no children.

CASE VII.

This is still another case related to this problem. A woman 36 years old, married once, syphilitic. She is the mother of eleven children by five different men. Of the 11, there have been 4 miscarriages, 4 have died in early infancy and two are living—one of these has the Hutcherson teeth. Think what a menace such a case (even though a negro) is to a community.

What should be done?

I will not tax you with more cases. All of you see some of these daily. What shall we do with such cases? How far are we justified in going in our instructions to the white employers? How far must moral ethics take us in protecting the prodigality of our unstable and unsatisfactory negro patients?

I wish to say that all negroes are not unsatisfactory patients.

An accurate account during the past thirty months shows that 80 per cent. of the domestics treated have gonorrhea in some form, and 30 per cent. have syphilis in some form. In many cases I have found both. 'Tis a serious state of affairs. The home should be protected. Should not the public be advised to require a health certificate?

'Tis easy to control your cases of acute contagion where the public has been thoroughly informed. Venereal diseases, the snake in the grass, present a great problem. Are we giving the public enough first hand, plain information? Are we to continue to speak of the "social evil" in vague terms and not give syphilis and gonorrhea in clear and specific terms to our innocent and helpless clientele?

The mere fact of publicity and constant repetition will bring the laity to an appreciation of the gravity of these dread diseases.

Can anything be a greater menace to a robust, healthy family than one or more infected servants breathing death into everything that touches one's life?

Shall not this august body politic rise and admonish the Kentucky homes concerning these?

A league for the protection of the home against the diseased domestic would be proper and a most noteworthy step.

I ask for a free and full discussion.

THE TRAUMATIC DISPLACEMENT OF THE KIDNEY.

By J. Hunter Peak, Louisville.

Malpositions of the kidney are probably as old as the human race, at least since man assumed the erect walking posture. Many classic articles have been written upon the subject of nephrotosis, partial and general viceroptosis, but so far as I know, this is the first article devoted to the discussion of traumatic displacement of the kidney.

It has been thought by most surgeons that in cases where a displacement existed after a fall, or traumatism, that the kidney was simply found out of place by virtue of the examination made to locate probable injuries, and that it most probably existed before the accident, but was not causing any symptoms until conditions were made worse by the accident; hence, it seems that few surgeons have thought that a displaced kidney might be the direct cause of traumatism, yet I have noted that nearly everyone with whom I have been in communication on the subject, say they have seen, undoubtedly, cases where displacement was the direct result of injury, but in such cases the patient usually went immediately to bed and remained there until operation was done to relieve them. It seems that in the minds of most surgeons that the condition is very rare, and that the disability from a traumatic displacement would be so great that the patient would be compelled to go to bed. It is interesting to note briefly the opinion of several noted surgeons on this subject.

Dr. W. O. Roberts: "I will say that I do not remember even to have seen a case of traumatic displacement of the kidney. I had the pleasure sometime ago of examining one that you had operated upon with marked success."

Dr. Irvin Abell: "I have never had but one case in which I regard that the kidney displacement was due to trauma, in this particular instance, the woman was immediately bed-ridden and remained so for a period of six weeks before operation was undertaken. I have seen many instances in which a movable kidney was demonstrated following trauma. I feel convinced that the trauma merely called attention to the already existing lesion rather than it had itself originated such displacement."

Dr. A. J. Ochsner: "I would say that displacement of the kidney, which is supposed to be of a traumatic origin, is usually a condition which undoubtedly existed before the time of traumatism, but which was not noticed until afterwards, but occasionally I have encountered a case in which displacement was undoubtedly caused by traumatism, but the proportion is very small as compared to the number of patients in whom the right kidney especially is loose and displaced, and in which there is no history of traumatism."

Dr. Lower, Associate Dr. George W. Crile, answering for Dr. Crile: "Our experience in traumatic displacement of the kidney is rather limited, we have observed some cases in which it seems that from the history the displacement had been entirely due to severe traumatism over the region of the kidney, as result of a fall or kick. It was very hard, however, to determine with certainty whether there may not have been other causes, or whether the displacement may not have preceded the notable accident."

Dr. Stewart McGuire: "While I have had two or three cases of traumatic displacement of the kidney, I regret to write I have no record which would enable me to report them sufficiently accurate to be of service to you in the perparation of your paper."

Dr. Roswell Park: "Only in a general way I think I can say that even in spite of history of injury, which quite a proportion of cases of movable kidneys give, it has always been difficult for me to satisfy myself that the injury was a real or actual causative agent. I am inclined to believe that it more often accentuates a previous condition of mobility than actually produces it."

Dr. J. B. Murphy: "I have seen a number of cases of traumatic displacement of the kidney. One case, in which the kidney was carried down into the illiac fossa and retained there, was a girl and was caused by her rotating on the edge of a board fence. She was leaning backward, caught her kidney, displaced it downward and retained it there in that portion for three days. It was believed to have been a case of appendicitis, but under anaesthesia the kidney was brought back into position. I have seen a number of other cases, and I think that its occurrence is much more frequent than is believed."

Drs. Mayo, Graham, Plummer and Judd: "In looking over our records of displaced kidney, we find only three of several hundred displaced kidnies, which could be definitely caused by direct trauma, I am quite certain that movable or floating kidnies are rarely caused by trauma. That is rather due to other anatomical conditions and the nature of the surrounding tissues."

In the main I hold about the same opinion as other surgeons, yet it does not always hold true, as the following cases will show: I know of one case which I had operated upon for appendicitis, only a few weeks before the accident which displaced her kidney, and know, positively, that the right kidney was in perfect position then. On account of quite a number of cases of appendicitis due to a displaced kidney, having come under my observation, whenever I have a case of appendicitis I always pay particular attention to the kidney position, and in this particular case, I was absolutely certain that the kidney was in proper place, though she did suffer extreme pain and distress from the kidney displacement, she did not go to bed from it at all, that is to stay in bed, she would lie down awhile until the pain would get better, then stay up until suffering became intense again, keeping this up for a period of sixteen days before operating for kidney fixation. I also remember another case, whom I knew well, and am absolutely certain that she had both kidnies in perfect position, was thrown out of a sleigh by a runaway horse, and the patient fell on the left side of back across a small stump, displacing left kidney, which did not cause her much more trouble than the ordinary cases, which come on slowly, due to a general viceroptosis: this case went for more than a year before she suffered enough to induce her to seek relief in an operation.

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

Then, too, I remember to have had two cases which did suffer much distress, but did not go to bed at all from the suffering except to rest at short intervals for a period of fifteen days, and both submitted to operation, because of my advice, that it should be done in order to prevent permanent results, and on making incision for fixation, it was found that a large hematoma surrounded the kidney in each case, showing that the accident evidently did cause the displacement. Another case: a teacher kept on teaching for ten days, then had to go to bed, and after a month of suffering she consented to operation, if there had been blood about the kidney, it had been absorbed, but she was a real stout woman, and not the kind of build in whom you would expect to find ordinary displaced kidnies.

There was no other viceroptosis.

Now, I had three cases who went to bed immediately, and remained in bed until well after operation, all these showing evidence of recent traumatism at the time of operation; two of these revealed other severe injuries besides kidney displacements.

Let us study the individual, who is a candidate for nephroptosis, and you will soon understand why the female is more liable than the male to ordinary kidney ptosis. The kidneys are situated, as you know, in the upper abdominal cavity one on either side of the spine resting upon the posterior abdominal muscles, and held in position by the perinephric fat, the great blood vessel and the ureters, and the maintenance of this position is aided by the normal tonicity of the other abdominal muscles.

The female has, normally, a very narrow waist line and a very wide pelvis. The narrow waist line may be still further exaggerated by improper corsage. This widening of the pelvis and narrowing of the waist line furnishes a much more shallow bed for the kidney, also it being woman's holiest mission to bear children, which causes very great relaxation of all the abdominal musculature, permitting a much greater tendency to general viceroptosis; all of these anatomical conditions mitigate against her health, and make her a sure winner in the race for the greatest liability to kidney displacements.

Out of our work in the last few years, I find that we have done one hundred and ten (110) operations upon the kidney, ten have been positive traumatic displacements. I have positive knowledge of the former condition before accident in two cases; four showed blood in the fatty capsule; two were in cases, who were stout and in perfect health up to accident, which displaced the kidney.

Seventy-five were ordinary displacements, several others of this seventy-five cases dated their trouble to injuries, but their physical make up and indifferent histories put them in the class of doubtful cases, and they were, therefore, put in the class of ordinary nephrotosis.

Out of the one hundred and ten (110) cases operated upon, ten have been proved to be traumatic displacements, seventy-five (75) have been classed as ordinary nephrotosis and twenty-five (25) have been for other causes, such as, stones, pathogenic infections, neoplasisms, etc., taking the eighty (85) cases, then, of displacements, 88 per cent of them were ordinary cases and 12 per cent. were traumatic. Now, this may seem to be a very large percentage of traumatic displacements, but how do we know but that even more than this number may be traumatic, because some of the other cases dated their trouble to falls. Out of the one hundred and ten (110) cases; five have been men and two out of the five men have been traumatic. This would indicate that 4 1-2 per cent of all cases are among men and 95 1-2 per cent. are among women. Yet, of the traumatic displacement we had ten (10) in all, eight women and two men, therefore, we have 20 per cent among men as against 80 per cent. among women in traumatic displacements. This, of course, shows that men are not nearly as liable to displacements as women, but it shows a much greater percentage of traumatic displacements in the male than ordinary nephrotosis as compared with the female average.

I hope you will pardon me for these case records, but the only way we can arrive at a correct conclusion in this kind of work, is for us to study our cases from every angle before operation and at operation.

ETIOLOGY.

Anything that would lessen the tonicity of the general abdominal musculature; anything that would cause the loss of much flesh, and the absorption of the perinephritic fat would very naturally be contributing causes making the descent and kidney excursion the more easy, when sudden jars do come.

It has been the history of five cases out of the ten that I have seen due to traumatism that the patient has had a heavy fall in a sitting position with the body thrown forward toward the thighs. One of the male and four of the female patients sustained such accidents.

One of the other female patients was thrown across a stump, having been thrown out of a sleigh by a runaway horse, falling on her left side. A second of the remaining number of females, was standing in the middle of her kitchen floor, when the floor gave way precipitating her into a 10 foot cellar in a standing position. This was a large woman, and she immediately went to bed completely disabled by a displaced left kidney. It was known by her physician that she had never had any trouble with the kidney before the fall, besides, she was about 5 feet 5 inches tall, and weighed 140 pounds; a fine, stout, robust woman.

A third patient was violently thrown across the railing around the fare box of a street car by the car suddenly stopping after it had reached a good speed. This is the patient upon whom I had operated for appendicitis only a few weeks before the accident, and I am positively sure she did not have a displaced kidney at the time of that operation.

The last of the list of women, stout and athletic, 5 feet 6 inches tall, weighed 150 pounds, had never been ill in her life, was hurt in a railway accident and rendered unconscious. I could get no history of just how she fell, but it was known that in the panic, which followed that she was trampled upon in the mad rush of other people to find places of safety. This patient went to bed at once, and remained there until the displaced kidney was replaced by operation.

To summarize, it would seem that one man and four women received crushing blows over the kidney, and one man and four women received severe falls with the body in an erect position. One man had a left kidney and one a right displaced, two out of the eight injuries in women had left kidneys displaced.

SYMPTOMATOLOGY.

Is not unlike that found in other nephrotosis, except the pain comes on more suddenly and is very intense, when the patient is in an erect position, as sitting, or standing, and is characterized by a weighty dragging sensation in the lumbar region and intense sharp cutting pain just beneath the floating ribs on the affected side with the pain radiating around the side toward the spine. Usually there is no elevation of temperature, except in cases where there is absorption of blood from the neighborhood of the injured kidney, then it will not be more than 99 1-2 to 100 F.

DIAGNOSIS.

Can easily be made from the history of the case. The physical make-up of the patient, the sudden onset of disability following shortly some accident, as already described, and the findings at the time of operation. Not infrequently blood will be found in the perinephric fat, sometimes amounting to large hematomas, as I have seen in three or four cases; then, too, the pain is more severe than is found in nephrotosis, of slow origin, and is almost entirely relieved by putting patient in recumbent position and elevating the hips with slight upward pressure over the affected side, which pain will reappear immediately on assuming erect position. The pain is more easily relieved in old condition, and when once relieved by rest in bed, it may not return for many days after assuming the daily duties. Palpation of the displaced kidney.

TREATMENT.

This is not essentially different from that instituted for the relief of ordinary nephrotosis, but it is my opinion that it is more imperative, and when instituted early you get much better results than that which is obtained in long standing cases.

In my judgment, the only treatment, other than surgical procedure, can be summed up in a few words; namely, proper attention to the general health, with a view of increasing the muscular tone, particularly of the abdominal muscles. This may be accomplished by hygienic living, with due regard to passive and active exercise, such as massage of the abdominal muscles, which should always be done by stroking from below upward, with the patient in a reclining position with the hips higher than the shoulders, together with such other calisthenics as will develop the abdominal muscles.

Some writers say much can be accomplished by the use of a certain electrical current to the abdominal muscles, which can be very greatly developed thereby.

The only abdominal support worthy of mention is an adhesive plaster dressing, applied as follows: The abdomen should be shaved for obvious reasons. The patient should stand perfectly erect. Then begin with two inch zinc oxide adhesive, starting the dressing one inch beyond the median line, low toward the pubes, letting it come upward and outward, just above the crest of the ilium, and stopping one inch short of the median line in the back on the right side, then a similar one on the left, and this should be repeated on either side, overlapping in front but not in the back, until the various strips of adhesive are carried up to, but not including the umbilicus. This method, of course, has but one very objectionable feature, that of skin irritation when worn too long.

This form of dressing may give considerable relief to patient who will not submit to operation, or who, from some physical cause, are not good surgical risks. Likewise, it is a good dressing to give support during the five or six weeks of convalescence following nephropexy. Those who advocate the wearing of certain kinds of corsets will find this dressing to be of great service, and one which will not interfere with the wearing of a corset.

There are a few points in connection with the operative treatment that are worthy of mention. One method, which is still advocated by some writers, consisting of packing the wound in the back with gauze after suturing the capsule to the muscle, allowing union by granulation with a view of obtaining stronger adhesions between the kidney and abdominal wall, need only to be mentioned to be condemned.

The reckless handling of the kidney in freeing it of the fatty capsule, and by bringing it out through the wound in back is wholly unnecessary, though it is still advocated by some good operators. This is not only unnecessary, but the kidney may be done much damage. It should be remembered that the fatty capsule is there for an anatomical purpose, and should not be sacrificed. All that is necessary is to divide the fatty capsule longitudinally, by blunt dissection, and reflect it to either side. This gives you a good view of the fibrous capsule, which should be divided a little to the outer side of the convex border, from pole to pole, and reflected on either side about one half inch, then sutured on either side to the muscle, being exceedingly careful that all of the fatty capsule is well beyond the suture line and well out of the field of the lumbar wound.

I have found by experience that the best incision is one advocated by the Mayos. You will encounter the ileo-hypogastric nerve, which may sometimes be double. This nerve should not be cut, because it supplies the skin over the side of the abdomen and crest of the ilium with sensation, and, if injured, it will cause much pain, and if severed, the patient will complain of a peculiar numbness, sometimes for many months. The surgeon should be careful also, not to include in his suturing this nerve, because such an accident will cause the patient intense suffering for two or three days.

Fullerton's technique of using a strip of the fibrous capsule for the purpose of fixing the kidney to the twelfth rib and arcuate ligament in the manner so elegantly recommended by Mr. Billington before the Jefferson County Society recently, is most heartily condemned by the best surgeons in this country and in Europe. Sir Frederick Treves, of Mr. Billington's own city, condemns the technique in no uncertain terms. Personally, I have never used this method for the following reasons:

First, you have to handle the kidney roughly by bringing it out through the wound in the back in order to strip down the capsule from the upper pole. Second, such a strip would not be strong enough to hold, and would tear off the first time the patient coughed or vomited. Third, the kidney has normally a free vertical excursion within its fatty capsule, of at least one to one and one-half inches on respiration, and the main object of nephropexy is, not to fix the kidney, but to anchor it, and if this strip of the fibrous capsule should hold, it would be fixed and not anchored.

Fourth, normally the kidney and ribs have diametrically opposite movements on respiration, and this alone, is seems to me, would be a contraindication to such a procedure.

In dressing the wound it is best to use only a small piece of gauze, held in place and protected by adhesive plaster passing well round over the abdomen to insure support to the abdominal viscera. One of the most important points in the post-operative treatment is to avoid the use of opiates, as far as possible, as they produce nausea and vomiting, conditions certainly to be avoided.

Another important procedure is the elevation of the foot of the bed about eight or ten inches, in order to secure the benefit of gravitation. The patient does not notice nor complain of this position, which should be maintained for about fifteen days.

The bowels should be kept regular by enemata in order to avoid constipation. Enemata are much better and safer than purgatives, which often cause nausea and vomiting.

The patient should be kept in a recumbent position for twenty-one days following the operation, and should be cautioned against violent exercise or jarring during the period of convalescence.

EMERGENCY SURGERY WITH SPECIAL REFERENCE TO INJURIES TO THE BACK AND SPINE OCCURRING IN COAL MINING PRACTICE.*

By B. E. Giannini, Straight Creek.

The "horror of the knife" and all that pertains to surgery has become a tradition like the practice that gave it birth; indeed the public is trained to expect that in the face of grave emergencies the surgeon will and must do something effective, however serious the required intervention may be if it but offers hope the doctor is expected to act. Our predecessors, even those willing and able, often found their hands tied under such circumstances by the ruling policy of "let alone and die." The indication for immediate intervention has been remarkably broadened since then, and to-day the golden opportunity is seized upon and emergency surgery finds a favorable place in the public sentiment. The surgical opportunity then of the general practitioner is clear and his duty as well, the professional spirit, the humanities, his conscience make it incumbent upon him to know and act. This he must do or drop to the rear in the march of progress which does not halt for the timid or unwilling. The field of emergency surgery he often finds a heavy task and grave responsibility. As is the usual circumstances finds himself isolated, remote from special counsel and perhaps compelled to act alone. More especially is this true in the mountains where doctors are compelled to travel horseback.

A careful review of cases show about 75 per cent of accidents occurring in mining practice to be limited to the extremities, hands and feet and these in the form of crushes, fractures and burns, while the remaining injuries are usually of the head, back and spine. A singular condition in many of the minor accidents is an infection termed by miners as bank poison. Pathologically, as I have always found to be due to a staphylococcus infection.

My experience with injuries to the back and spine has led me to the conclusion that this class of injuries are the most serious class of mine accidents with which we have to deal. These accidents are usually caused by either falling of coal or loose slate from the ceiling or roof of the mine while the miners are in the mines. They are generally in a stooping posture, the slate and coal falling in most cases without any warning whatever. In some cases it rides him to the bottom face downward, while in other cases it will bend him forward. Again a large piece of slate may fall on a miner with such force as to knock him clear of it as it falls to the floor of the mine. In each instance we find an injury to the back or spine. There are no graver injuries than to the back and spinal column. No class of cases present a more difficult problem for solution. As to diagnosis and prognosis in these cases my experience has been that it is a very difficult problem to solve. Even after you have subjected many of these injuries to an X-ray examination and been able to locate any trouble the patient will complain a great deal and in some instances use crutches until the jury decides his case. Then he will discard the use of crutches and go to work. However, each case is an individual study and should be treated accordingly. We are dealing with every safeguard to prevent injury. A column made up of short, strong bony segments held together with strong ligaments and muscles and bands, a flexibility secured by three antero-posterior curves, a series of twenty-four ribs insuring a lateral support, it is clear that a tremenduous force, either direct or indirect is necessary to effect a fracture. We have learned that direct violence often produces a simple fracture, which means fracture of the transverse processes, the laminal pedicles and spinous processes and sometimes the bodies, these fractures sometimes cause comparatively trivial disturbances, which in some cases consist only of an irritation of spinal nerve roots, and at other times extension cord destruction with complete paralysis of motion and sensation, due to pressure of bony fragments or hematomas, and later to transverse myetitis. The clinical manifestations are so variable that the diagnosis is often only a matter of speculation.

Indirect violence producing forcible bending forward is often caused by the falling of weights on the back while working in stooping posture such as coal miners do. Masses of coal and slate fall from the room in the mine producing complicated fractures. They are attended by extreme laceration of muscular ligaments, cord envelopes, spinal nerves and the cord itself, and often considerable hemorrhage. The vertebrae bodies may be crushed, the pedicles fractured, the bone fragments are usually displaced and there exists the inevitable cord lesion, usually complete division and the nature of the injury appears quite clear. But let us consider an average spinal injury. A man is brought out of the mine. We are informed as to the nature of the accident, direct or indirect violence, as the case may be. There is immediate and complete motor and sensory paralysis below the point of injury. There may or may not be a posterior angular deformity, or one or more movable spinous processes, local pain may be intense or mild, or absent. There may be some lancinating pain in the course of the spinal nerves springing from the seat of injury or above it. Tendon reflexes may be exaggerated, enfeebled or absent.

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

Now the question arises what structures are damaged. We may be practically sure that we have cord compression, but can we be certain whether the pressure is due to bone fragments or to hematorrhachis or hematomyelia? If after a few days, weeks, or possibly months, have gone by and we see this same patient with the same chain of symptoms to which we find the following:

The bladder and oval sphinctures are paralytic, if the lesion be high there may be priapism, pain at seat of injury, may have become increased and become peripheral. Trophic changes in the skin, ankle clonus and plantar reflex uncertain. Babinski sign may have developed now but can we now be certain as to the exact nature of the injury. It is true we can be fairly certain in the presence of the above symptoms that we have a grave injury to the cord. But in the present life of our knowledge we can not state with certainty whether we have compression or a partial or complete lesion with little or no cord destruction or an apparently limited bony lesion and much cord destruction.

I think it is generally agreed that the osseous lesion is no guide to the extent of the intra-spinal condition. A fracture of the cervical vertebrae with dislocation near the atlas causes instant death, while nearer the dorsal vertebrae, if below the origin of the pneumogastric the patient may live a long time. But if the fracture involves the third or fourth cervical vertebrae death often will follow within sixty hours. Now in view of this uncertainty there appears only one thing to do and that is to open the spinal canal, in all cases of spinal injury with deformity and paralysis and do an exploratory laminectomy. Accurate asepsis an exact surgical technic have made operative intervention a safe procedure. The operation should be done at the earliest possible moment. The patient should not be moved only by experienced hands and then handled with the greatest possible care as a great deal of damage can be done to the patient by rough handling, as was the case with case 1.

W. A. A., age 35, coal miner, a mass of slate separated from the roof of the mine falling on his back. While rescuing him his colaborers became very much excited and instead of raising the slate and thereby releasing him they pulled him from beneath the slate by his legs. The patient stated to me that they pulled his back in too. He also stated that he could work his feet although they were numb before they dragged him from beneath the slate. Paraplegia was complete. There was a posterior angular deformity in the lower dorsal region over the tenth and eleventh vertebrae. Patient refused operation and died twelve months later.

Case 2. R. A., miner, age 30, fell off a wagon striking on the back of his neck and shoulder causing immediate paralysis, complete of legs and partial of arms. Tenderness was pronounced over the fifth and sixth cervical vertebrae. The skin was discolored at this point. The spines slightly movable. Patient refused operation and was sent to his home in Birmingham, where he died seven months later.

Case 3. B. H., miner, age 28, fell from top of box car June 30th, 1908, striking his back against a piece of timber. There was immediate paralysis, both motor and sensitive, both sphincters incompetent.

Examination: Patient was subjected to X-ray examination at Knoxville which was of no assistance in the case. Patient refused operation and is still living and fairly well nourished. There have developed increased pigmentation spots below the eighth dorsal vertebra. Patient can tell when he is going to urinate but has no control whatever.

Case 4: H. U., miner, age 20, while at work in a mine a mass of slate fell from the roof of the mine striking him in the region of the sixth and seventh dorsal vertebra and riding him to the floor of the mine. On examination at the hospital we found motor paralysis below the point of injury and slight deformity. Patient had some sensation below the injury. However, we notice it creeping upward about four or five inches every twelve or fourteen hours until it reached the point of injury. Patient refused operation, and lived one month and one day.

Case 5. D. H., miner, age 31, was injured by falling slate in the mine while in a stooping posture.

Examination: Patient removed to hospital, both motor and sensory paralysis. Both sphincters incompetent. Slight deformity, eighth spine movable, operation.

The spinal canal was opened. The eighth spine was removed together with the lamina which was fractured. There was hemorrhage, together with lacerated membranes. The clots were removed and the wound irrigated with normal saline. Wound closed and dressed without drainage. Result: In about ten days patient was able to move his leg slightly, but soon became septic and died six weeks later with meningitis.

As to treatment of injuries to the back and spine where there is no cord injury I have gotten good results by applying a plaster of Paris jacket and in some cases have used the suspension collar and raised the head of the bed. However, I believe each case is an individual study and should be treated accordingly.

In conclusion I want to say that I believe the coal mines and railroads and other industries, as well, should have a certain number of their employes thoroughly trained in first aid work. The Continental Coal Corporation at Pineville started first aid work at their mines about two years ago. Since then our first aid men have not only been a great help to the doctors but in some instances saved lives in the mines by prompt attention to the injured miners some times two miles under the ground.

VACCINE THERAPY.*

By R. Hayes Davis, Louisville.

Vaccination against diseases has been known for a great many years. Vaccination with cow pox to prevent smallpox has been almost a universal custom. Pasteur was the pioneer who learned to modify viruses to make them as harmless as possible while still retaining their immunizing qualities, and since this time the work has been steadily increasing. However, it was not until 1902 when Wright first introduced his studies of the opsonic index that vaccination came into such general use. Since then it is hardly conceivable with what rapidity the use of vaccines has been carried to the treatment of all infections. At first only skilled bacteriologists used them, and they were guided by studies of the opsonic index, and they used only vaccines made from the actual germ causing the disease, but very soon the entire profession seemed to lose itself in its enthusiasm. Vaccines were prepared by a large number of commercial houses and were put on the market in all sorts of combinations and were injected promiscuously into all diseases that were in any way connected with bacterial infection. But fortunately the pendulum is now swinging in the other direction, and conservatism is taking the place of the radical ideas that have been held by a large number of the profession who have not been familiar with the production of immunity, because it must be said that practically all workers in immunity have constantly urged caution in the use of such remedies.

For a moment let us consider what takes place when an animal is subjected to an infection. There is a vast difference in its response depending upon the invading agent. The eruptive diseases usually run a definite course and afford a permanent immunity against reinfection. Other diseases like leprosy, malaria, and tuberculosis afford very little immunity. There is, however, in every disease a resistance to the infection although this may be very slight, and at times may even be injurious as in the production of anaphylaxis. Bacteria as expressed by Theobald Smith are either offensive or defensive with the exception of a few that are combinations of both. An example of the former is the diphtheria or tetanus bacillus. These organisms lodge themselves in necrotic tissue and produce a soluble toxin which is very injurious to the organism affected. To produce an immunity to such bacteria the toxin itself must be injected. In most other varieties the function is largely defensive. The bacteria produce certain changes in their own bodies for their own protection, and to stimulate the animal to opposition against these infective agents it is necessary to inject the bacteria themselves. Whichever type is present, in order to overcome the invasion the body must produce antagonistic elements which are known as antibodies and are made up of antitoxins, bacteriolysins, agglutinins, opsonins, phagocytes, etc. If a sufficient number of antibodies are produced the infection is overcome. If not a sufficient supply the patient either succumbs or the infection becomes chronic. Oftentimes the balance stands almost stationary, and the slightest change on one side or the other may bring about recovery or death. Hence it can not be emphasized too strongly that vaccines may be exceedingly dangerous if not used with the greatest care. In an organism already working to its utmost to overcome an overwhelming infection the addition of a vaccine may result in a fatal termination.

At first the results of vaccination were studied by constant observations of the patient's blood which contains antibodies known as opsonins. These antibodies prepare the bacteria so that they may be more easily ingested by the phagocytes. It was found that if a mixture of bacteria and leucocytes was made there was very little phagocytosis. But if serum was added there would be a decided phagocytosis, and the greater the immunity the more marked the phagocytosis would become. By comparing the number of bacteria ingested when normal serum was used with those ingested by means of patient's serum a figure could be obtained which was known as the opsonic index. After the injection of vaccine is made there follows during the first 12 to 24 hours a period when the opsonic index is lowered and the clinical symptoms increased. There may be present anorexia, malaise, nausea and headache. The temperature may be elevated a degree or so, and the local symptoms may be aggravated as manifested by increased inflammatory reaction and more copious suppuration. This period is known as the negative phase. This is followed in two or three days by the positive phase which is characteristized by an increase in the opsonic index and an improvement in all of the symptoms. There is frequently a sensation of buoyancy. If the dose is too large the negative phase is prolonged, and the positive phase short, and the patient is injured. If too small there is not much improvement. The dose should be so regulated to produce as short negative phase as possible with a prolonged positive phase. After several injections the negative phase may almost cease to be apparent, and the positive phase is sustained. This is the ideal to accomplish in every case where vaccines are used.

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

Vaccines are prepared by making pure cultures of the organisms, suspending the bacteria in salt solution, sterilizing by heat, and standardizing. Then a preservative like trikresol or cresol is usually added to prevent contamination. The vaccine should then be thoroughly tested for sterility and is ready for use. The bacteria may be taken from the lesion itself where possible or may be a laboratory culture. The former is always preferable where practical and where it can be accomplished by a skilled bacteriologist, as bacteria vary so greatly even in the same species. If the proper strain is used there may develop a decided immunity, whereas if the wrong strain, there may be only slight, if any, improvement. The commercial houses mix together bacteria of the same species derived from various sources and call it a polyvalent vaccine, but this is not satisfactory because the particular strain, if present at all, may be present in such small dosage that little good will be accomplished. With the autogenous vaccine one is assured of securing the proper germ and of having the vaccine fresh. These houses also mix various species together and call the product a mixed vaccine to meet indications of inaccurate diagnosis. But this is not justifiable. A vaccine should never be used unless the infection has been worked out scientifically, and when such is the case if more than one organism is thought to be responsible the vaccines should be used separately, and then the dose can be properly regulated.

The Journal of the American Medical Association in a special article of recent date has summed up the reasons for the preference for autogenous vaccines as follows:

1. Any result that is possible in therapeutic immunization can be secured by autogenous bacterial vaccines.
2. Therapeutic results otherwise unattainable may follow the use of autogenous vaccines.
3. Autogenous vaccine therapy makes prerequisite a bacteriological diagnosis, the only really scientific method of approaching the treatment of an infection.
4. If carried out in detail by the practitioner, it assures the possession of a certain skill and experience without which vaccine therapy is merely an empiric procedure.
5. It assures a personal intimate touch between the practitioner and patient.
6. It assures the independence of the practitioner from commercial vaccine interests.
7. It elevates vaccine therapy to its proper level of a special practice in the hands of a thoroughly qualified physician.

There are, however, times when stock vaccines must be used. There may not be time for the production of an autogenous one. There may not be available a physician capable of preparing one, although this is scarcely an objection, because anyone capable of making an accurate bacteriological diagnosis is capable of preparing a vaccine, and unless this can be made a vaccine should not be used. Certain organisms like the gonococcus and influenza bacillus are difficult to grow. Then certain organisms are inaccessible like the gonococcus in gonorrheal rheumatism. However, in most cases the autogenous may be secured.

In the treatment of infections most workers now rely on the clinical manifestations of the negative and positive phases instead of the study of the opsonic index. This is a time-consuming procedure and is oftentimes misleading. The dose should be varied to give as slight negative phase as possible with a prolonged positive phase. The usual interval in chronic infections is about 5 to 10 days, but some have given injections as often as 2 days in acute conditions, but this is usually not advisable. When the infection is acute 3 to 5 days is preferable. When the proper dose is determined this should be continued. Gradually increasing the dose after the proper amount has been found is not advisable. If the negative phase is prolonged it is an indication of too large a dose. If there is no, or only a slight negative phase with practically no positive phase, the dose is too small, and the proper amount can usually readily be determined. In some cases the power of antibody production is exhausted, and vaccines should not be used, as they can only do harm. This probably accounts for the failure in some cases. The failure in other cases is due to improper dosage, improper intervals, the wrong vaccine, and so forth.

Vaccines should never be used to the exclusion of other treatment. They are simply an adjunct to other rational measures. This can not be urged and impressed too strongly as too great optimism might lead to delays in calling a surgeon in such dangerous conditions as appendicitis, cholecystitis, mastoiditis, etc.

I shall now discuss briefly the infections usually treated by vaccination.

Staphylococcic Conditions. Furunculosis is in many cases markedly benefitted by vaccine treatment. Sycosis and eczema, especially of the serous and pustular type, oftentimes respond very favorably. In acne and carbuncle it is of questionable value. The dose of staphylococcic vaccine is 50 to 1,000 millions. In these infections the stock vaccine seems to be equally as good as the autogenous if it is perfectly fresh. The combined staphylococcic vaccines are unnecessary. When a staphylococcic vaccine will accomplish good, the aureus organism is just as good or better than any combination.

Streptococcic Infections. In localized infections due to the streptococcus like cellulitis, lymphangitis, adenitis, endometritis, phlegmon, etc., vaccination may be of value. In puerperal infections it has proved of value at times but in such a condition it can not be used with too great care and only if an accurate diagnosis has been made preferably by blood culture, as many cases of puerperal septicemias are due to other organisms. In erysipelas vaccination is probably of no value. In scarlatina it is not advisable to use it routinely, but it may do good in the localized complications of this disease. In rheumatism various combinations of staphylococcus and streptococcus vaccine have been used, but they as a rule, accomplish very little. There are so many strains of streptococci that the autogenous vaccine is always advisable where possible. The dose is 30 to 100 millions.

Pneumococcic Infections. These as a rule do not show much response either to the stock or autogenous vaccines.

Gonococcic Conditions. Certain ones of these infections are often greatly benefitted. The acute gonococcic conditions are not improved. Chronic urethritis is not as a rule responsive to simple gonococcic vaccine, but some cases improve very favorably with combinations of the gonococcus and other infecting organisms. Chronic epididymitis, balanoposthitis, and vulvo-vaginitis in childhood are at times improved. However, in the latter the improvement is usually only temporary. In gonorrheal rheumatism the results have as a rule been quite satisfactory. The stock vaccines are usually employed. The dose is from 5 to 10 millions.

Meningococcus Vaccine. This unquestionably causes the production of a good quantity of immune bodies and is being made use of as a prophylactic in epidemic meningitis. Theoretically it would be of very great value, but it has not been worked out clinically as yet. The usual custom is to give three doses at 7 to 10 day intervals, the first being 500,000,000, the other two being 1,000,000,000.

Colon Bacillus Infections. There is a wide field of localized infections due to these organisms, and vaccines may be of great value, although the results are in a large number of cases extremely disappointing. An autogenous vaccine should always be used when possible, as there are so many different germs belonging to the colon group.

Pertussis. Recently a vaccine has been prepared from the bacillus pertussis of Bordet. This may be given in doses of 20 to 50 millions at 4 to 7 day intervals. There is evidence to show that this is probably a useful adjunct in the treatment of whooping cough.

Typhoid Vaccine. The prophylactic use of typhoid vaccine is unquestionably of great value. It is a simple procedure entirely without danger and should come into very general use. Three doses are given at 10 day intervals, the first being 500 million and the other two being 1,000 millions. There is a difference of opinion as to its value in the treatment of typhoid fever, but in localized complications and sequelae of typhoid the use of an autogenous vaccine is unquestionably a great aid to any surgical measures that may be necessary.

Many other infections have been treated by vaccination, but time will permit a consideration of only the more important ones just named.

Phylacogens. These should hardly be considered under the title of this paper as they are not vaccines. They are the metabolic products of mixtures of many kinds of bacteria grown on artificial culture media, the bacteria being entirely removed by filtration. They are used for a great variety of conditions, even including such dangerous infections as lobar pneumonia. The reactions following the injections are usually very severe and in many cases are worse than the disease itself. There seems to be evidence that they are beneficial at times, although their mode of action is not understood, but according to my opinion such heroic and uncertain treatment should be used only as a last resort and should never be used in such acute dangerous infections as pneumonia. They are most frequently employed in arthritic conditions and by some with great enthusiasm, but the results that I have seen have not been very impressive.

In concluding I want to emphasize several points:

1. Vaccines are often a useful adjunct to other treatments and will not infrequently cure a condition where other means have failed.

2. They have a distinctly limited field, and should be used only when an accurate diagnosis can be made and where they are directly indicated.

3. Autogenous vaccines are usually preferable and should be used in most infections where possible.

4. Vaccines should be used only by men who understand thoroughly the laws of immunity and know the dangers of improper vaccine treatment, and in acute conditions too great care can not possibly be exercised.

INTUBATION IN MEMBRANOUS CROUP.*

By Will Mason, Jr., Murray.

The modern treatment of membranous croup consists of two essential procedures. The administration of antitoxic serum and O'Dwyer intubation, chronologically the introduction of intubation antedated the antitoxin by several years. By these two means of relief from this terrible disease, it has been robbed of much of its terror although there is still a considerable mortality even when treated by men who are thoroughly competent to use the most approved methods.

Up to the time when O'Dwyer introduced the intubation instruments, which he did gradually, beginning in 1880 and steadily improving them, tracheotomy was the only means of relieving the otherwise fatal cases.

All who are capable of speaking with authority now recognize that intubation is the method of choice when surgical relief becomes imperative in the treatment of membranous croup. Its advantage over tracheotomy are that it is both more certain as a means of relieving obstruction and less dangerous to the life of the patient.

Since the introduction and general use of the diphtheria antitoxin, surgical relief for the disease is much less frequently necessary than before. Before the time of antitoxin the cases of young children with membranous croup were in the majority of instances doomed to a terrible death in the absence of surgical relief. Still there is a wide field yet for intubation, particularly in the rural districts where the antitoxin is not so systematically nor so promptly used as in the more populous centers. In the majority of instances, if antidiphtheritic serum is administered promptly upon the appearance of the typical symptoms, it so quickly relieves the condition as to make it unnecessary to use any mechanical means to relieve the respiratory obstruction.

DEFINITION.

Membranous croup is an acute infectious disease, occuring almost exclusively in young children, caused typically by the action of the diphtheria bacillus upon the mucous membrane of the larynx and upper trachea, resulting in the formation of a pseudo-membrane which mechanically obstructs the passage of air through the narrowed respiratory channels.

Untreated, it is particularly fatal in the younger children, and the younger the child, the more certain the fatal issue, due to the anatomical fact that the tracheal and laryngeal opening is smaller and thus more easily obstructed by the false membrane in the younger children. When death supervenes, it is almost invariably due to a simple asphyxiation and not caused by toxemia such as so frequently is the cause of death in an untreated case of pharyngeal diphtheria.

It is unquestionably true that the typical cases of laryngeal diphtheria as seen in membranous croup show a type of disease much less virulent and fatal than the other forms of diphtheritic infection, provided the mechanical obstruction of the respiration can be eliminated from the symptoms of the disease, as it can be done by the simple operation of intubation.

In view of the fact that true membranous croup is caused by the diphtheria bacillus as is incontrovertably shown by bacterial examination, it is a remarkable fact that it is a disease of so slight a virulence as shown by the following phenomena: First, as just mentioned, there is only a comparatively slight systemic intoxication in this form of diphtheritic infection as compared with other types. Second, in the majority of cases the false membrane is confined to the larynx and upper trachea and the infection does not involve other portions of the upper respiratory tract in its lesion. Third, in all of my experience of membranous croup, I have not seen one instance in which infection could be traced from another case of membranous croup or diphtheria in another child in the same house or in which another case in the same house or family followed the first case.

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

If then, membranous croup is a true diphtheritic infection of the larynx, how can we account for its exceptional lack of virulence? In the first place, for some unaccountable reason, it must in most instances be an infection by a strain of the bacillus diphtheria of comparatively slight tendency to produce grave systemic toxic condition in the anatomical fact that the larynx is very poorly supplied with lymphatic channels capable of absorbing the toxic substances from the infected area.

In only a comparatively small portion of our cases was any bacterial examination of the false membranes made, but in those which were examined, the diphtheria bacillus was invariably found.

ETIOLOGY.

The great majority of typical cases are shown to be associated with the diphtheria bacillus; but it is true that a small percentage of such cases is seen in which it is impossible to demonstrate the presence of the diphtheria bacillus and in which other bacteria are apparently the direct cause of the false membranes. Dieulafoy says that the organism most frequently at fault in the cases where the true diphtheria bacillus is not present is a small coccus, Brisou's coccus, but that these cases are undoubtedly milder in both toxic and local symptoms than those caused by the bacillus diphtheria.

In a certain percentage of the cases, the diphtheria bacillus is associated with either a staphylococcus or streptococcus, and that in these cases, particularly in the case of the the streptococcus, it is a much more serious and virulent disease and more liable to result in death. Our cases vary in age from eleven months to eight years, the greatest number being from two to three years of age.

SYMPTOMS AND DIAGNOSIS.

The symptoms which serve to distinguish a case of true membranous croup and particularly to differentiate it from ordinary false croup are the following: The initial symptoms are usually those of a bad cold or coryza, which may continue anywhere from one to five days before the symptoms of laryngeal obstruction appear, except for the gradually increasing hoarseness.

When seen, the temperature will be slightly elevated, 99 1-2 to 101 1-2. There is always some rise of temperature but it is never very high. The symptoms of laryngeal obstruction usually come on rather suddenly with severe hoarseness and finally complete loss of phonation associated with gradually increasing dyspnoea. There will of course be periods of exacerbation in the dyspnoea, but after it begins it does not completely subside but rather steadily grows worse.

The cases of false croup are usually without any fever and the laryngeal spasm comes on suddenly in the middle of the night without previous warning with extreme dyspnoea, but without loss of phonation. It always improves by morning and the symptoms are absent the next day to be repeated again the following night.

In cases of true croup associated with the presence of membranes in the pharynx the diagnosis is easy, especially when those membranes are located upon the palate or posterior part of the pharynx; but in many there will be no pharyngeal lesions, the false membrane being confined to the larynx where it cannot be readily seen.

TREATMENT.

The ideal treatment consists of the administration of a sufficiently large dose of antidiphtheritic serum as soon as the diagnosis of membranous croup is made. The initial dose should ordinarily be 2000 units, this may be repeated in six to twelve hours if the symptoms do not promptly subside, and if necessary larger doses may be given at frequent intervals. In those cases where in spite of the antitoxin, the symptoms of respiratory obstruction grow steadily worse, or where the antitoxin has not been used at all or has been delayed too long, the procedure of choice is intubation with O'Dwyer's tubes.

In a case of membranous croup then, what are the positive indications for intubation? When dyspnoea reaches such a degree that accessory muscles of respiration are called into use, then intubation must be performed at once, otherwise the little patient becomes rapidly exhausted by the voluntary respiratory efforts. The signs of this excessive dyspnoea are perceptable retraction of the superclavicular and epigastric areas upon inspiration, a degree of cyanosis, rapid pulse and inability to sleep.

In some instances it is wise to introduce the tube even when this degree of cyanosis is not present, particularly when circumstances are such that it is impossible for the physician to see the patient frequently or to be within call.

It is not the purpose of this paper to give a detail description of the intubation instruments or methods of their use, which can be easily gained from the text-books and other literature, but to call attention to some of the points which have been particularly impressed upon my mind by my own experience.

When called to a case of membranous croup in which the extreme dyspnoea calls for immediate intubation, and in which antitoxin has not been administered (as in my experience, has been most invariably the case) I at first introduce the tube in the shortest possible time and follow this immediately by the antitoxin, as a rule giving 3000 units to the average child. I have never found it absolutely necessary to repeat the antitoxin subsequently and it has been my custom not to repeat it but have found one dose almost invariably effectual. In fact in not more than ten per cent. of the cases in our series has a second dose of antitoxin been given following intubation. In one of the fatal cases, in fact the only fatal outcome which could be attributed to the toxemia of the diphtheritic infection, the parents absolutely refused to permit the use of the antitoxin.

Most of the authorities give from three to five days as the average length of time which is necessary to leave the tube in the larynx. In my experience, five to seven days would be the nearer the average length of time. In a few of the cases it becomes necessary to replace the tube after removing it at the end of the usual period, and then to leave it in place several days longer; and in a very few cases it has been necessary to repeat the third time and even the fourth. There are cases recorded in the literature in which tubes have been left in the larynx for six to nine months, not however for membranous croup but for other pathological conditions.

It is a well recognized fact that there has been a number of cases in which sudden death has occurred during the introduction or attempted introduction of the tube, the cause of death apparently being cardiac inhibition. This has been explained as due to excessive stimulation or irritation of the superior laryngeal nerve. In our series there was one case of death which apparently belongs to this class. Crile recommends that in order to prevent such accidents it is well to give a preliminary dose of atropin sulphate to prevent this cardiac reflex inhibition.

I knew one good physician who lost his patient in this manner upon his first attempt at intubation, which resulted in his becoming so discouraged over the matter that he deliberately decided never to attempt intubation again, and never did.

One of my cases died with typical symptoms of anaphylaxis or serum disease.

When intubation is done, there should be a loop of thread fastened through the opening in the upper extremity of the tube in such a manner that the thread can be removed by cutting and drawing out without displacing the tube. The purpose of this thread is to make it easy to recover the tube when necessary after it is placed as is often the case when it fails to remain in place or is not properly introduced. By some, this thread is left in place attached to the tube in order to make it easy to extubate quickly, if this for any reason should become necessary. Others always remove the loop of thread after it becomes apparent that the tube is properly placed and is working satisfactorily. In case it is desired to leave the thread in the tube it is best to leave the thread between the teeth to hold it in place away from the tongue and then bring it out at the angle of the mouth and fasten firmly to the cheek by means of adhesive plaster.

In my cases I have never found it necessary or desirable to leave the thread in the mouth but always remove it from the tube after it is in place. Dr. Waller in a recent article in the *Southern Medical Journal* emphasizes the importance of never removing the thread but always leaving it attached as long as the tube is in the throat in order to make it possible for the nurse to quickly remove the tube from the child's throat if this should become necessary from stoppage of the tube and threatened asphyxiation. He also advises to invariably leave the child bound in a sheet in order to prevent its being able to get hold of the thread in its mouth with its hands and thus pull the tube out of the throat. This procedure seems an unnecessary hardship upon the patient. In at least two cases, I have been called to replace a tube in the child's throat which the child had pulled out by means of the thread which the physician had left attached to the tube.

The feeding of the intubated patient has been made much of, and many methods and posture, etc. I have found very little difficulty in giving food to those patients, either liquid or solid or semi-solid food usually give less trouble in swallowing; but fluids usually can be taken successfully in the upright position, provided the child is allowed to drink from a cup and encouraged to take a considable quantity at the time. The only strangling taking place after the first swallow down the throat.

Our record comprises fifty-eight cases of intubation on children for membranous croup. Among these there were eight deaths, the others recovering, the apparent causes of death in each of these eight were as follows:

One case died from broncho-pneumonia.

One from anaphylaxis.

One from some obstruction of the respiratory tract the nature of which could not be ascertained, but which was not relieved by this tube.

In one there was present some abnormality of the larynx probably a laryngeal tumor which made it necessary to frequently replace the tube which was kept for thirty days, the child finally died from asphyxiation after the tube was spontaneously expelled.

In one case no antitoxin was administered and the child aparently died from diphtheritic toxemia.

One case died during the introduction of the tube, the cause of death being cardiac inhibition.

In two cases the cause of death is not recorded.

WHAT THE BUSY PRACTITIONER CAN DO TO EDUCATE THE PUBLIC IN THE PREVENTION OF DISEASES.*

By A. V. Menefee, Williamstown.

I appreciate the honor conferred upon me by assigning me this important subject to which, unfortunately for the public, too little attention has been paid in the past.

Not because physicians as a class desire to see disease wide-spread among their fellowmen and to reap a financial harvest from the misfortunes of others, but because physicians themselves have not been properly trained and in their hurried struggle fighting disease have neglected to impart such knowledge as they did possess to enlighten the public on methods of prevention; and, still another reason, because of lack of appreciation on the part of the public of such services and failure to remunerate physicians properly for services rendered. A physician to impart knowledge must possess knowledge and he can not well possess great knowledge unless he has the means necessary for educational purposes. Hence, at this point, I would urge that all physicians educate the public to pay physicians as well as to educate them to prevent disease. This will prevent much suffering among physicians who certainly need an anodyne of this sort quite frequently.

In but few counties in Kentucky are health officers paid a salary sufficient to enable them to properly discharge their duties and until the time comes when each county has a health officer who is paid enough to devote his entire time to the work the general practitioners will have to do the greater part in the way of educating the public to prevent disease.

My salary as health officer was $150.00 a year until last year when it was increased to $200.00, not enough to enable me to devote a very great amount of time to health work proper; but I am doing what any general practitioner can do, preaching the gospel of health daily to all patients and their families.

I have a stereopticon and slides best suited to illustrate my lectures which I deliver at points where I think most good can be accomplished.

From time to time I have published in the county paper articles on the prevention of diseases most common in the community and distribute circulars supplied by the State Board of Health, freely among the people. I also keep a supply of these in my waiting rooms which patients read with interest and benefit.

I frequently use my stereopticon in my office to illustrate certain points and find that it is quite helpful in getting patients to understand the cause and prevention of many diseases and that it helps to inspire confidence and to secure co-operation.

It is the duty of every physician to explain to each patient treated and to the family (except in certain cases in which an explanation might result in a family "row" or divorce proceedings) the cause and prevention of the disease; to inspect the surroundings, the water and food supply, the condition of the home and give whatever advice is necessary to make the home and surroundings sanitary.

Secure specimens of water and milk suspected of contamination, specimens from patients suspected of hookworms and tuberculosis. The State Sanitary Engineer and the State Bacteriologist are always ready to serve you faithfully and promptly.

Deliver an occasional lecture in your church and school and make an inspection of the school children. Do this without charge and you will profit in the end and your work will prove a blessing to many. In the schools in rural districts you will find many eye, ear, nose and throat conditions needing attention, and that these children and their parents are ignorant of these conditions which, when explained, may receive timely attention and prevent much suffering.

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

Examination for hook-worm may reveal many cases which can be speedily relieved. If necessary appeal to the State Board of Health and all necessary assistance will be given. Get Dr. Heizer, or some other good man engaged in public health work, to come to your locality and give a lecture and work with you a day or two and you will be surprised at the resulting good it will do. I believe if we all work harder along these lines we will be held in higher esteem by the public and, even if we are not, we will have the satisfaction of knowing that we have done what we could to bless mankind.

An occasional lecture to young men (and old ones, too) on the prevention and the dangers of venereal disease, illustrated by proper stereopticon slides, will be received with great interest and do much toward diminishing this wide-spread evil.

Proper attention to the eyes of the new-born babies will help greatly to reduce the number of inmates of our blind asylums.

There are so many things that the conscientious general practitioner can do to bless mankind that I might mention but I feel that you all know as much about these matters as I do and I shall not, therefore, consume more of your time but urge you to be "active doers of things" and great shall be your reward in the world to come if not in this one.

Let your life be a correct example for others to follow. The physician who is intemperate and whose home and surroundings are unsanitary is not a suitable man to teach others the correct mode of life.

AUTO-INTOXICATION.*

By O. W. Brown, Lenoxburg.

The literature at my command gives practically nothing on this subject. Anders gives one page to the discussion of auto-intoxication. An old edition of Tyson does not mention it. DaCosta gives about one page to the subject and this is only the theories of other investigators.

This would indicate that this condition has not been well understood in the past, or that it is not important from a clinical standpoint. Some men at this time refute the idea of such a condition. They claim it is not understood and we term it auto-intoxication for the want of a better name. Biliousness and malaria are beginning to be a little obsolete and out of date, so they tell us, and we must have something new to tell our patients. Most every patient understands what we mean when we tell him he is bilious or has malaria, but when we tell him he has auto-intoxication he may think we are only trying to use some big word to keep him in the dark as to his real condition. Of course it would be difficult to undertake an explanation to our patient for the reason that the name is new. But just say bilious and he is well satisfied that you and he as well are on the right track when you give him a purgative and order a diet for a day or so. This treatment would be alright in ninety per cent of all diseases, but that does not indicate that the doctor understands the pathological condition that is present in this particular disease.

Auto-intoxication simply means a poisoning of the blood generated within the body, that is, the intoxication is set up by the absorption of toxins from some part of the alimentary canal as a rule.

It is difficult for us to explain how immunity is maintained in certain individuals to some certain disease, but we know this to be a fact.

Again, an individual may be exposed to a certain disease a great many times without becoming inocculated or infected. Again a slight exposure will, within a few days or weeks cause this same individual to be overwhelmed with toxins that previously had no effect whatever on his general condition. But after recovery from certain diseases there is a life-long immunity, is another problem that cannot always be solved. This immunity may last for a life time or may be brief. Anyway there is an antitoxin left in the blood that prevents further infection from the same disease for a variable length of time.

It has been said that the phagocytes of our blood are constantly on guard to ward off infecting organisms and if it were not for the protecting and destroying powers of these cells we would all succumb to the least injury or infection.

It is an undisputed fact that our bodies are at all times the hosts of many different forms of microorganisms, some of which may be very virulent if only an harbor, or a fort of defense can be located, and new recruits mustered in perhaps by the million. Of course these organisms that are constantly present in the mouth, nose, colon and other parts of the body are considered harmless, but it has been proven by very able authorities that under certain conditions these organisms may cause grave symptoms within a few hours. The colon bacillus has always been considered harmless, but in most infections of the gall bladder, ilio-colitis, gastro-enteritis, pyelitis and many other pathological conditions in the abdomen are due to this and other organisms that are considered inert.

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*Read before the Pendleton County Medical Society.

Auto-intoxication, as I understand it, is only the absorption into the blood, or the intoxication of the blood as the result of a fermentation due to some error in diet, constipation or in fact faulty elimination from any part of the digestive tract. Also by a greater number of the organisms than normally present, resulting in an acidemia, ptomain poisoning, and auto-intoxication seems to me to be about one and the same thing except, instead of the alimentary canal in ptomain poisoning may be much more severe than most cases of auto-intoxication for the reason that some of the most virulent microorganisms may be present in the diet at the time of its consumption.

This subject may apply in a sense to almost all of our ailments, for in most of our cases there is a something circulating in the blood that causes all sorts of aches, fever, fast pulse, delirium, vomiting and many other symptoms that the patient seeks relief for. We have learned from experience that in most all cases there is an accumulation of a something in the system that needs elimination. So we give purgatives, diuretics, diaphoretics, expectorants, etc. This is simply getting rid of toxins in the blood and we say the patient was bilious or had malaria. Bilious (so my dictionary tells me) means full of bile so this will not explain the symptoms. Malaria is not very common in this climate and perhaps you have missed it if you say malaria.

I will here cite a case I had about five years ago. Boy ten years old, strong and healthy in every way, begun to complain of headache, backache, loss of appetite, chilly sensations, coated tongue on inspection abdomen distended, constipation, fever from 101 to 102 1 5 in afternoon, but had fever continuously, which remitted one or two degrees during night. I watched the boy closely for four or five days and made a diagnosis of typhoid fever. The boy became delirious and then I was very positive it was typhoid. I visited him in the afternoon of the eighth day and expected to find a very sick boy, but to my utter astonishment the boy was practically well; temperature normal, pulse normal, tongue clean, distension all gone, stools natural, good appetite, and every symptom of disease had vanished like a puff ball before a cyclone. I am certain this was a case of auto-intoxication and am also certain that many so-called cases of abortive typhoid fever are only auto-intoxic cases.

Another case. A woman, age 26, strong and vigorous, had always been in good health, came to me for treatment. She had night sweats, afternoon temperature of 101 to 103, slight cough, coated tongue, constipation, pulse 106 to 115 total loss of appetite, was losing weight rapidly, chilly in afternoon, no gastro-intestinal symptoms, except a slight soreness all over the abdomen, especially the colon. She was certain she had tuberculosis. I examined her lungs thoroughly several times and could find nothing wrong, so I sent sputum and had an examination at two different times with a negative report. I decided it was a case of auto-intoxication and treated her for three months before all the symptoms disappeared. She suddenly began to improve and was perfectly well in a short time. Has had perfect health for the past four years or from the time of this trouble.

I believe most of our cases are acute and especially in children and young adults, but this was chronic and I am certain I have seen several cases similar to this in the past three or four years

The symptoms I have noted in the acute cases, as a rule, are sudden onset with high fever, rapid, high tension pulse, headache, coated tongue, constipation the rule, but may have diarrhea; flushed face, dilated pupils, abdomen distended, delirium in children, vertigo, different forms of erythemia myalgiac pains in legs and back, stomatitis. The erythemia and different forms of skin lesions I find to be very common in this condition and we can readily understand why, when we know that most all forms of skin diseases are due to the absorption into the blood from the alimentary canal of some toxic agent that causes the eruption. Urticaria, for instance, may tell the tale of gastric or enteric derangement in a very short time.

But we must be very careful when called to see a child with these symptoms, for we may have some very grave contagious diseases to deal with, and may make a bad blunder unless we withhold the diagnosis for a time.

Another symptom we usually have is the very foul odor from bowel movements. Another may be swelling of joints, resembling rheumatism. I have seen this in one case that I can recall. I don't believe a true rheumatic infection will respond to treatment in so short a time as the arthritis due to auto-infection

In making a diagnosis of this condition as in all others, it is not always best to jump at conclusions, but to study the different features between this and especially the acute infectious diseases. In scarlet fever we have an erythemia resembling some cases of auto-intoxication, but other symptoms, as the unusually rapid pulse, vomiting, sore throat that is very red, strawberry tongue, convulsions some times, and the general appearance is different in the two diseases, also the aching pains are not present in scarlet fever.

The chronic form of this condition may resemble a great many different ailments, but we now have our State Bacteriologist, who will make the diagnosis for us if we will only take the trouble to send in the specimens. She will make clear many points that we have been in doubt about. The treatment for both the acute and chronic forms is about the same.

Get the bowels and kidneys to acting freely. Also the skin if deemed admissible. I have never found anything as good as castor oil for unloading the colon of undigested and fermented material and in chronic cases it may be given in large doses every day or two, also have used large doses of olive oil, two or three times daily. A compound enema is also very beneficial to relieve distention. When the fever is very high use frequent sponge baths of cool water and alcohol.

I usually give intestinal antiseptics, such as salol, the sulphocarbolates, small doses of calomel, not as a purgative but as an antiseptic and laxative. Diet, I believe, is also very important here and unless we tell patient what he should eat and what not to eat we are making a mistake in the treatment. All foods that contain large amounts of sugars and starches are known to cause fermentation in the alimentary canal in these conditions, and should be interdicted. Buttermilk, lemon albumen, meat broths, stewed fruits and many other articles may be given with advantage, but it is a mistake to tell a patient to eat soft and easily digested food, for if we don't specify the particular kinds many will eat just the wrong thing, such as potatoes and beans. We all know the effects of a debauch in eating even when we are well. Just attend a big banquet where all sorts of food and drink are indulged in, come home late at night, get us late next morning feeling a soreness and stiffness all over the body, and in fact feeling about thirty years older than you really are. You have simply put too much fuel in the engine and it will not work well till nature has had time to eliminate some of the surplus, or it may be that drugs will have to be resorted to in order to relieve the overtaxed organs.

I often think of the splendid results some of the older practitioners had in dealing with disease and it is yet very readily understood they knew very little about diseases compared to this day and age, but they had found out from experience that purging and vomiting would relieve a great many conditions, and yet could not tell why. They were only doing what we must do to-day in many ailments if we get results. We must eliminate toxic substances that have accumulated perhaps for years without any apparent disturbance of the general health. And yet, I cannot help but believe that arterio-sclerosis, chronic nephritis, diseases of the liver, gastro-enteric diseases, and perhaps many others are the end results of this toxicity.

There has been a great deal of contention and dispute about intestinal antiseptics in typhoid fever and other derangements of the intestinal tract, and some very able men claim it is useless to give them for the reason that it is impossible to antisepticize the alimentary canal with any known drug. This I will agree to, but this does not disprove the fact that intestinal antiseptics does not do any good at all, for I am certain we can render the field less fertile and present the multiplication of these organisms and this is of great importance, for it is usually the number of these organisms as well as their virulency that overwhelms our patient.

When we apply an antiseptic dressing to an external wound, we don't expect to destroy all the germs that might be present, but we expect to hinder their multiplication and render them inert to a certain extent.

We have drug nihilists, therapeutic nihilists, clinical nihilists and all sorts of unbelievers in scientific researches, but what we know to be good I believe we should stick to till we know of something better.

MEDICAL ETHICS.*

By J. L. Anderson, Manchester.

"Ethics is the science of human duty," and as the practice of medicine is virtually considered a science with unbounded human duty, medical ethics may be defined as the particular system of principles, rules and duties of the physicians to each other and to the profession at large; to the medical societies, and to suffering humanity.

The obligation assumed on entering the medical profession is a serious one and implies a most arduous task, demanding the physician be clothed with manly and gentlemanly principles. That he be honorable and dignified; that he be Christian like, with a heart of deep love and sincere interest in the welfare of those for whom he works and must without question be well versed in the art of healing.

This can be done in part by attending and participating in the medical societies as well as to help hold up the dignity and honor of the profession; to exalt its standards and demand from the public the respect that is due such a noble profession.

The conduct and the accomplishments

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*Read before the Clay County Medical Society.

(which are measured by his ability to do) of the physician should be such as to make him an honor to the profession. To be what we ought and what we are supposed to be, we should be an honor to the profession and not the profession to us. We start out in life "To do noble things, not dream them all day long." So we must be noble and well equipped ere we can do these things. Our thoughts, deeds and actions should be pure and undefiled and above reproach, we should be exemplars of manhood, leaders of men to a higher and better plain; we should be modest, sober and patient, always ready and willing to do our duty.

The physician should make his mark high and strive to reach that mark by honorable means. What we put in our lives is what we get out of them. If we are imbued with pure and noble principles, high and exalted ideas, always endeavoring to defend the cause of right and humanity and graciously shouldering the duties which are ours, as physicians, that sure we will be abundantly rewarded in the end.

I want to call your attention to a few things from which we as professional men, in order to uphold the dignity and honor of the profession should refrain.

The course we pursue has a great deal to do with our success and we should be careful to to do nothing that could in any way lower us in the estimation of the people. When the young doctor starts out in the field of duty he wants work and often times has to wait patiently for quite a while before it comes, yet he should not be discouraged and apply to such unprofessional things as advertising in newspapers or magazines, circular advertisements or personal communications.

It is equally unprofessional to procure patients through solicitors or agents. Neither is it ethical to blow our own horns. It is much better to let others do the blowing.

The knowalls and no cure no pay does not belong to the profession of medicine and should be stamped as quackery as should the promise of radical cures. Neither should one boast of his cures or have secret remedies. It is also as "unethical to assist unqualified persons to evade legal restrictions governing the practice of medicine." The law making bodies of the country have enacted laws protecting the physicians and it is their duty to themselves as well as the community to see that these laws are enforced. A physician should always cheerfully and graciously respond with his professional services to the call of any physician practicing in his vicinity or the immediate family dependent on physicians. When a physician or a member of his dependent family is seriously ill, he or his family should select a physician from among his neighboring colleagues to take charge of the case and this should be done without remuneration. In case of serious illness, especially when the prognosis or when the diagnosis is questionable, a physician should request consultation. The physician owes this to himself as well as to the patient. It protects the attending physician and gives the patient the benefit of another opinion. It is often more ethical to call consultation upon a question of diagnosis, even if the patient is in no immediate danger, than in a case of grave prognosis.

I am not much on deathbed consultations, yet if the attending physician believes the family has any doubts or superstition as to the management of the case, there is but one course to pursue, call consultation. It is the duty of the physician in charge to be punctual and on time when the consultation is called and unless unavoidably delayed there is no excuse for not being on time. There is no less responsibility on the consultor. If it is impossible for the attending physician to be present when the consultation is called, it is the duty of the consulting physician to make his examination with the strictest precautions, write out his findings and opinions and give to the family, well sealed, to deliver to the regular attending physician on his arrival. In the absence of the regular attendant the consulting physician should be sure to say nothing that would in any way reflect or discredit the regular attendant.

It is much better to have the regular attendant to enter the sick room first. This is a matter of courtesy and respect extended from the consultant to the regular attendant, as well as relieving the consultant of the embarrassment of being first to enter the sick chamber where his neighbor physician has been in attendance. Really it is proper and does not detract from the regular attendant. After the consulting physicians have completed their examination or investigation of the case they should meet alone to discuss the condition of the patient. The consultation should not be in the presence of the patient or members of his family. It should be absolutely secret that the consultants will in no way be hampered from a free expression of opinion or be thrown in a compromising position. Each should be free to express and give his opinion; the patient is due it and must be first in the consideration of the consultants.

The conclusions reached from the consultation should be given out if the consultants agree. Then it is the duty of the regular attending physician to carry out the treatment and management of the case as agreed upon.

The physician in charge has a right to change this plan of treatment in the absense of the consultant at any time in his opinion the condition of the patient is such as to demand it and he should so explain at the next consultation, but it is unprofessional at some future call to say to the patient and the family, I can fix something or prescribe something for you that is much better than what you are taking. In case the consultants can't agree it is their duty to call the third physician, to tell the family they can't agree and that he is wanted for his opinion. The family should have the benefit of every man's opinion who has been called.

If the consultation brings it out that a change of medicine is requisite to the best interest of the patient, but no emergency, it can be left off until the subsequent visit of the physician in charge, yet I don't altogether endorse this procedure. If a consultation is to benefit the patient why not now?

"The consultant should not become the attendant of the patient during that illness except with the consent of the physician in charge" and at the request of the patient or his immediate friends though he can in the absence of that attendant prescribe for or meet an emergency.

A physician should never take charge of or prescribe for a patient under the charge of another physician, only in case of an emergency, or in the absence of the regular attendant. On the return of the regular physician the case should be turned over to him with an explanation of the steps taken in the case. During this temporary charge of the case the physician "should give no disengenious hints relative to the nature and treatment of the patient's disorder."

He should neither do or say anything that would diminish the trust imposed in the attending physician."

Often times we are called to see a patient who has been under the care of another physician, he having been dismissed or without his knowledge of this call, then more particular should our deportment be on the above principles, manly and discreet toward our fellow practitioners. To criticise the procedures of the previous attending physician only tends to react on ones self and to lower the profession in the estimation of the people.

Such tactics tend to advance the idea to the public that the medical profession is one of commercialism only.

To say, if I had only been called two or three days sooner, or if I had not gotten here just when I did, etc., I could have done so and so and so and so would not have happened. Such statements could come only from a jealous, prejudiced mind and from one who is willing to do little things. YEA to do a personal injury to his brother physician for dollars and cents. We should rid ourselves of all petty jealousies "do unto others as we would have them do unto us."

In this section this manner of calling another physician is very common and it is our duty to find out, if possible, whether the patient has been under the care of another physician and if so either refuse to go or go only in consultation with the regular attendant. In case we get to the patient's house before we learn this fact it is then commensurate on us to deport ourselves as professional gentlemen and to say nothing detrimental to the attending physician, but follow the principles previously set forth and tell the family that they must recall the doctor or pay his fee and dismiss him, before you can take charge of the case. In case a physician is called because of the absence of the family physician he should relinquish the case on the return of the regular physician, after having provided for the immediate needs of the patient. If it be a case of obstetrics when another has been engaged he should retire on the arrival of the physician engaged, but should be paid for all services rendered. The profession should stand firmly together, always ready to protect each other. Nothing but praise should ever be spoken by one physician of another. Such remarks as, I have had so many cases of the kind with no such results, should be avoided and could only be uttered by one who is lacking in many principles. It should be thoroughly understood by the laity, that we are staunch friends and will not submit to any derogatory remarks of a brother practitioner.

There is work for all and little money. We are working much more for the cause of humanity than for dollars and cents. It is a sad mistake to cut fees in order to get work and is also very unprofessional. A man is measured largely as he measures himself. Nothing tends to lower the profession more than cutting fees. Our services are worth so much, it is our duty to demand this remuneration, except in a charitable case, then we should gratuitously respond. I suggest that we attend promptly the county medical conventions brimming full of enthusiasm and with something to say on every subject that is up for discussion. Take a note of all your interesting cases or any of them that are out of the ordinary and bring them up for discussion. These meetings and discussions can, by the interest of the members, be made very interesting and instructive and we can surmount many obstacles.

Let there be no drones in the hives, but all be workers, honey-making bees. There is something to be learned from every discussion and from everyone in this Association.

This is a school at home and costs nothing but a little time and study, so let us all go to school and make the profession of medicine in Clay County one of the most active and the best qualified in the State of Kentucky.

NON-OPERATIVE MANAGEMENT OF PROSTATIC HYPERTROPHY.*

By Stanley G. Zinke, Richmond.

All pathological changes found in the urinary tract of individuals suffering from prostatic hypertrophy can be traced directly to the obstruction to the outflow of urine from the bladder. By operative measures this obstruction can be removed at once. But operation is not always possible; one must then rely upon non-operative measures. No matter what the treatment may be, whether operative or palliative, the goal sought is the same:—removal of the obstruction.

In the first stage of irritation or of congestion, during which the patient is still able to empty the bladder spontaneously, it is essential to relieve the irritation and to prevent, if possible, attacks of acute retention. Acute retention is invariably followed by an increase in the severity of the symptoms and must be lessened and attacks of retention averted we must resort to such measures as will reduce the irritability of the gland and provide for the removal of the congestion of the blood over-filled prostate. All riding horse or bicycle, automobiling over rough roads, excess in venere, sitting on cold and damp floors, or sitting quiet by the hour should be forbidden.

The food should be nourishing, but simple and bland. Spices are contraindicated. The evening meal should be eaten at a longer interval before retiring. Regular evacuation of the bowels should be provided for. Overdistention of the bladder is to be avoided. The patient is to be advised against the use of large quantities of alcoholic beverages as an excess is prone to bring on an attack of acute retention. He should take his liquids during the day and take little or nothing of a fluid nature in the evening. This pertains particularly to carbonated waters.

The congestion of the pelvic organs can be relieved by regular exercise, such as walking, and by the use of warm saline sitz-baths or hot foot baths. It is also advantageous to have the patient spend a week or two at some resort where mud-baths can be obtained.

An excellent method of reducing the irritability of the prostate is the passage of metal sounds through the urethra into the bladder. This simple measure is often followed by a most remarkable reduction of the symptoms, dysuria giving away to normal micturition. In the beginning the sounds should be passed every day, later every other day and finally once a week. The treatment must be continued for at least four weeks and should be repeated after a certain interval, depending on the condition of the patient. The instillation of silver nitrate, 1-4 per cent. to 1-2 per cent. into the pars prostatica is also to be used in connection with the sounding. It possesses the faculty of producing marked amelioration of the symptoms. The instillation is to be made after sounding has been carried out.

In obstinate cases, those in whom there is a constant and severe dysuria, resection of the vas has been recommended. It is not, however, of any particular value. The operation is devoid of danger and is technically simple. Incision through skin over inguinal region ligatures 2 or 3 cm. apart; resection of portion between the ligatures; suture. The vas may also be reached through the scrotum.

For the management of prostatics in the second stage no definite mode of procedure can be advised. Each case must be handled according to individual requirements. Much depends on the amount of residual urine. As a rule, if it does not exceed 100 c.c., the treatment is that of the first stage. If the residual urine is found to be the cause of the patient's discomfort he should be catheterized at bed-time.

When the residual urine amounts to from 100 to 400 c.c., catheterism is called for once each evening (to avoid or to control irritation). To relieve irritation the catheter must be used more frequently.

If the residual urine exceeds 400 c.c. one catheterization will not suffice. The excess of urine must be removed by catheter at least twice a day, morning and evening. It is well to remark here that *strict asepsis and exceeding gentleness be exercised in all cases where catheter or sound is used. This applies particularly to prostatics.*

When the residual urine exceeds 600 c.c. the catheter must be used three or more times during the twenty-four hours. *Great care should be taken the first time that the bladder is emptied in these cases as the urinary passages have been subjected to increased pressure, the sudden removal of which may be followed by most disastrous consequences.*

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*Read before the Madison County Medical Society.

Severe parenchymatous haemorrhage from the bladder wall, kidneys or renal pelves are not uncommon complications following the injudicious relief of distention. Sudden death has occurred. In other cases *reflex anuria has set in and the patients died of uraemia.*

These sequelae are avoided by emptying the bladder by degrees. Such a procedure is well tolerated by the bladder and kidneys. The following is a good method to adopt: The first day 400 c.c. should be withdrawn morning and evening; the second, 500; the third, 600, etc., until the bladder is completely emptied. The urine should be examined daily and if the albumin, which is almost invariably present in these cases, should show an increase a slower tempo should be taken up. If bacteria or pus-cells appear, prompt action is necessary. The infection must be fought at once in the following manner: 100 c.c. of urine is withdrawn and replaced by 100 c.c. of either a saturated solution of boric acid or with 1:5,000 permanganate solution. This interchange is continued until the fluid returns clear. This maneuvre is repeated daily *in addition to the removal of the required amount of urine.* If one irrigation per diem is not sufficient, the irrigation must be repeated more frequently.

It may, in the beginning, be advisable to use a self-retaining catheter, particularly if introduction is difficult or attended by much pain. The catheter can be kept closed by means of a clamp, the latter being removed at the time that the required amount of urine is to be withdrawn.

After the urinary tract has become accustomed to the diminished pressure, catheterism may again be instituted. Three times a day in the beginning, later reduced to twice a day (when the amount of residual urine has diminished).

In the third stage we have chronic retention. The treatment is practically that of the second stage, with the exception that the amount of residual urine is greater. The bladder is to be emptied under the same precautions. Regular catheterism is to be be carried out, the intervals being governed by the amount of urine passed during the twenty-four hours. (Owing to the fact that polyuria is often encountered in these cases, no fixed rules can be laid down as to the number of catheterizations necessary during the twenty-four hours). If the patient can get along with comfort until the bladder content amounts to 500 or 600 c.c. one should wait until this amount is present. If, for instance, the total quantity of urine passed during the day amounts 2,000 c.c., the patient would require the catheter four times during that interval.

Under this management the uraemic symptoms will, as a rule, disappear, the amount of urine will diminish and the urine itself take on normal characteristics. It often happens that the condition reverts to the second stage under this treatment, the residual urine showing a decided diminution in amount.

It has been said that "catheter life is hell on earth." This is, however, not the case. That cystitis and urethritis do occur in a certain proportion of cases is admitted, but said complications are almost invariably due to technical errors or to neglect on the part of the patient in sterilizing or introducuing the catheter or else he has not received the proper instructions from his physician. A man of average intelligence, properly instructed, need fear no severe complications. Many individuals have had years added to their lives and much added to their comfort by the use of the catheter. The slight discomfort and inconvenience of its use is offset by the relief afforded.

The following points must be remembered when putting a patient on "catheter treatment:

(1). *Each case requires its patricular type of catheter. When possible, a fairly stiff soft-rubber or woven-silk catheter with Mercier curve, should be used.*

(2). *The patient must be instructed on asepsis and antisepsis, the more simple the instructions the more likely are they to be carried out.*

(3). *One must assure himself that the patient has mastered all of the details before he is permitted to catheterize himself.*

(4). *He should be instructed to flush the bladder with boric acid solution each time that the catheter is employed if possible.*

Though little can be done for the hypertrophy itself, much can be done to avoid the onset of complications.

In order to prevent urethritis the following points must be considered. In the course of time, through boiling, etc., the catheter will become rough. Such an instrument is bound to produce minute traumata which become infected readily. It is therefore essential to insist that *only absolutely smooth instruments be used, and that the catheter be discarded immediately upon the appearance of any rough spot on its surface.* Patients having a urethritis will frequently find themselves relieved of this distressing condition as soon as they have replaced the old intsrument by a new one.

The lubricating material should be bland, sterile and soluble. Ky, or some similar preparation, is to be recommended.

Many patients contract the habit of sterilizing the catheter by immersing them in solutions of carbolic acid or of mercurial sublimate. Such a habit is dangerous for, even though the catheters be thoroughly flushed before use, enough of the minute particles of the disinfecting fluid will remain to set up an inflammation. This should be forbidden and the patient be instructed to *sterilize his catheters by boiling or by means of steam.* Though not always possible, it is best for the patient to use the catheter *immediately after it has been boiled.* There are, on the market "catheter carriers" which will hold two or three sterile catheters. They afford a simple and efficacious means of carrying catheters when the party is so placed that means of boiling are not always at hand. The patient should also be advised *never to touch the catheter within four inches of the eye and to have the glans clean.*

It is well to recommend the *injection of boracic acid solution* through the catheter while it is being withdrawn. This serves to flush the urethra and removes the debris (epithelial cells, bacteria, lubricating material, etc.) which, if allowed to remain, might cause infection.

The first stipulation for the prevention of cystitis is the strict attention to asepsis and antisepsis. The bladder should be irrigated as often as is possible following the use of the catheter. Under these precautions some of the cases will remain free from cystitis. In the majority, however, a slight cloudiness of the urine appears, denoting either cystitis or a chemical change in the urine. So long as the cloundiness is slight, the outlook is good and no complications are to be expected. Should these symptoms increase in severity, cloudiness increase and ammoniacal changes appear, the bladder must be emptied more frequently and the evacuation followed by a thorough washing of the organ. These precautions will be followed, as a rule, by a prompt return to normal in a few days. If it fails, recourse must be had to the retained catheter for a while. During this time the patient should be up and about, the bladder emptied and flushed every hour, and a few ounces of the irrigating fluid permitted to remain until the next "sitting." After sufficient progress has been made, regular catheterism can be resumed.

The prophylaxis of prostatitis, epididymitis and orchitis is similar to that of urethritis, being, as a rule, due to a neglected inflammatory condition of the urethra. As cessation of catheterism, the rational method of treating these conditions, is practically out of the question it is necessary to resort to the use of small catheters and have the patient wear a suspensory bandage as soon as the least sign of the presence of either of these complications manifests itself.

Acute retention must be met by one of the following maneuvres where catheterization is impossible: Always try to pass the largest sound that will enter the meatus. This failing, try one of a somewhat smaller size. If this fails, drop in a few drops of a 2 per cent. cocaine solution and try once more. (Some advise against the use of a local anaesthetic owing to the danger from false passage, through the exertion of unnecessary force. Personally I believe that any man who knows how to pass a sound, in other words if he is extremely gentle in his manipulations and uses no force, can use a local anaesthetic without danger to the patient). Then, if not successful, try a hot sitz-bath, as hot as can be borne. Should all of these methods fail, the bladder must either be aspirated every eight hours or we may have recourse to the methods of Belfied, of Chicago, or Joseph, of Breslau. The latter method is a modified Belfield operation.

Belfield aspirates the bladder with a trochar and canula of sufficient caliber to admit the passage of a No. 11 or 12 F. catheter. The catheter is inserted through the canula and the latter withdrawn over the former. (The urine is permitted to escape in a manner similar to that used when the catheter is introduced through the urethra). The catheter is allowed to remain until the inflammation at the neck of the bladder has sufficiently subsided to permit of each catheterization.

Joseph, of Breslau, (*Munch. med. Wochenschr.* No. 30), gives the following technique: Under local anaesthesia, a short incision 1 cm. in length, is made one finger's-breadth above the pubes. A trochar, about 30 F. caliber, is inserted into the bladder for a distance of about 1 cm., through the above mentioned incision. The trochar is removed and a Pezzar catheter, on a mandarin, inserted, through the canula. The canula and mandarin are withdrawn and the head of the catheter fixed firmly to the bladder wall by gentle to and fro movements accompanied by traction. A small stop-cock is now inserted into the free end of the catheter. If properly placed there will be no leakage at the bladder end, infiltration of urine never having been noticed in any of their cases. Irrigation is carried out through the catheter. If the channel of the fistula should dilate, the catheter can be removed for twenty-four hours in order to allow it to contract. The catheters should be changed as frequently as is necessary:—about every week or two.

Karo, of Berlin, (*Medizin. Klinik.* No. 18, 1912), in considering prostatic hypertrophy, states that he has had good results in this condition by the use of orchitic extracts, using "testikulin" He states that many hypertrophies are due to the lack of the internal secretion of the testicle.

F. Kraemer, Frankfurt on Main, (*Munich. med. Wochenschr.* No. 3, 1912), claims excellent results in four cases of moderate severity, through the use of the Kollman dilator, dilatation being carried up to 32 F.

In conclusion, let us consider the management of haemorrhage.

Spontaneous haemorrhage can not be avoided. Traumatic haemorrhages are guarded against by the exercise of great gentleness during instrumentation.

The treatment of severe haemorrhages must cover three points: haemostasis; prevention of clotting; removal of clots, the latter being a source of great danger. If the bleeding is from the prostatic urethra it can, as a rule, be controlled by the insertion of a large sized retention catheter. This measure has, however, no effect on bleeding from the vesical portion of the prostatic urethra. In these cases one must use free irrigation of the bladder with cold water, with or without the addition of some astringent. But even this may have little or no effect on the condition. The same may be said of cold applications per rectum Internal medication, ergotin, adrenalin, etc, is worse than useless. *It is a mistake to keep all of these cases in bed.* This only serves to promote congestion and increase the severity of the haemorrhage. In addition, the quiet, supine position assists in the fomation of sediment and blood-clots, which is to be avoided. Keep the patient up and moving about if possible and have him drink large quantities of water (to delay clotting). *If alarming symptoms of anemia appear, cystotomy must be performed and the bladder packed.* Fortunately, however, the bleeding usually ceases spontaneously before such radical measures become necessary. On this account it is best not to be too ready to resort to the knife.

When the clots in the bladder interfere with the escape of urine, the patient should be catheterized with a medium metal catheter with a full curve. While the tip of a soft catheter would seek the floor of the bladder where the clot has lodged, the metal instrument will carry its eye up beyond the clot to where clear fluid can be reached. Before the catheter is passed, however, the patient should be made to lie quietly on his back for a time in order to give the clot time to gravitate to the bottom of the cavity. If the urine does not flow, the chances are that the eye has become clogged by a clot. Should such a emergency arise, the clot must be forced out of the lumen of the catheter by the forcible injection of a small quantity of boric acid solution; the end of the catheter is then closed for a few moments to permit of the gravitation of the clot past the eye of the catheter. The fluid content of the bladder should be allowed to escape slowly in order that aspiration of the clot may be avoided.

To remove a clot from the bladder one must proceed somewhat differently. An evacuation catheter of large caliber, with a large eye, is passed into the bladder. Through such an instrument very large clots can be removed). Gentle irrigation will often remove even quite large clots. It may be necessary to aspirate through the catheter, using a catheter-tip syringe of two or four ounces capacity. If this fails and if the clot has become lodged in the eye of the catheter, one may, by contining the aspiration, hold the clot fast and remove it by gently withdrawing the catheter.

Spontaneous solution of a clot in the bladder takes months and should not be considered for a moment.

If the clot is too large to be removed by any of the above measures it must be either crushed by means of a lithotrite and removed or the bladder cleaned out through a suprapubic incision.

THE MICROSCOPIC HOST.*

By T. J. Townsend, Owensboro.

A stirring war cry of the ancient Highlanders of Scotland was in no wise a greater slogan to a class of heroic people than is the earnest sympathetic appeal to the twentieth century doctors—who are steadily engaged in echoing warning notes along the open paths of progressive science.

A thoughtful study of bacteriology offers some interesting conclusions that should be respected in common by every physician advanced in the etiology of zymotic disease.

When the great Architect of nature first breathed into a human body the breath of life—and endowed a soul with superior intelligence, He had completed a most wonderful handiwork that is delicate and complex, with a system of arrangement that is marvelous in its capacity for building live tissues, and for conducting the wear of friction and the waste of decay.

In the primeval ages of the human race, sociological conditions nor dietetic problems were in evidence sufficient to cause serious conflict—health and happiness was a common heritage to those sturdy people—breathing space was ample, water was refreshing and less polluted—food was sound, simple and nourishing, human desires, nor ideals, nor ambitions, nor wealth, nor power affected the health nor the longevity of the average plebian.

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*Read before the Daviess County Medical Society.

Fellows, what have we to cheer us at this day to advance our science, or to inspire us with renewed energy, or to avert the calamity of early graves, withered flowers and sodden clay?

Under the supervision of a fearless and competent board of health, Kentucky is enjoying greater freedom from the deadly march of infectious and contagious diseases than ever before equaled in the history of any state of the American Union.

The wiser members of our honorable profession are engaged in deeper study of the laws of nutrition, and possess a better knowledge of a chemistry that conducts the organized function of the body, or such as will invoke and perpetuate the inhibitory power of nature to resist the poison of toxic material that may find lodgment in the bodies of unsuspecting individuals.

A helpless new-born babe fresh from the matrix is not free from the presence of bacteria, even before its lips have nursed milk from its mother's breast.

It is developed in the light of wisdom that normal intestinal bacteria supply a useful need in conducting vital chemistry, and that we should not feel disturbed over the presence of a microscopic host that are natives in a symbolic sense, of the human body. They are bona fide citizens enjoying the rights of preemption, and should not be suspected as a mortal foe. The normal bacteria is a friend—its kingdom is the body of man; it is intended to do valuable service, appropriating for its own sustenance available waste material, which if permitted to remain in the intestinal canal might prove a toxic poison that would surely disturb the normal equations of vital energy.

The home of the acid producing bacillus is a "chartered institution" with a well equipped army corps, capable of doing honors to its calling both in war, and in times of peace—its service is confined, for the major part, to a health department (?) in a line of protection and prophylaxis: It is spontaneous, sporadic and reproductive; it is the natural guardian of its possessions, and is a part of our bodies.

The microscopic host that disturbs the mind and racks the brain of the body politic, is perhaps the most beleaguered, the most belauded, and the most berated of any public issue that is anchored within the modern institutions of medicine.

This age is greatest in learning, in wealth, in power, influence, intrigue, cunning and ambition. The most of us are hypnotized by plausible theories, till we are posing in a pleasant state of paresis. Shall a mistake be charged to us that we are surrendered to bacterial specialism? And that the Saints of our order shall be censured on a matter of communism and misapplied energy?

The popular microscope has revealed much in the way of scientific knowledge—it has also paid useful contributions to bacterial investigations; but we are plain to admit that its practical importance fails to distinguish a malignant germ from a generous friend.

The bioplast of contagion is less than one hundred thousandth part of an inch in diameter, neither a microscope, nor chemical analysis have ever yet proven one species from another.

Mycrophites are regarded the lowest form of bioplasm that are found to exist in the fluid and solid tissues of animal or plant life, nor also in any of the mineral productions, nor have any means yet been devised to distinguish their individuality.

Those of us who have carefully noted the shapes and forms of five different varieties of the most prominent pathogenic bacilli, can not fail to see that they bear to each other a very striking resemblance.

The little rod-like bodies of the *bacillus coli communis,* the *bacillus typhosus,* the *bacillus pyocyaneus, the bacillus Friedlauder* and the *bacillus tuberculosis* are evidently of the same stock, and that a rational discerning mind cannot fail to understand that they are of the same quality and of the same relations.

Environments, shelter, food and climate, have wrought change in the plumage and in the shapes of a dozen varieties of the domestic barn-yard fowls. The same conditions exist in the breeds of swine, and in numerous strains of blooded cattle. Climate and soil have given variety to a dozen kinds of wheat. The same *eternal, unfailing law* may be practically and successfully applied to *twenty-five* chief types of the human race.

We are told by the learned fathers of bacteriology that any medicine they may prepare for specialism is positively possessed of the virtues of a specific, and that each aseptically sealed package is worth the price and promise printed on the label.

We are also told, to their own great satisfaction, and to our mute surprise, that a proper cure for many forms of infectious or contagious disease may be effected, if *their* serum is used early and in sufficient strength, and that it is best to use a greater number of units in the outset, regardless of the cost.

We, the trusting, humble, saints, and disciples of Hippocrates are being called on to adopt the serum package business.

At this late day we are seriously told that it is our separate business to diagnose any disease, and that it is their business to show us how to treat it. Truly, we are the survivors of a benighted age!

A freshly prepared beef-steak secured from a recently butchered animal is palatable, wholesome and nutritious, in a state of decay, the same kind of steak would prove a malignant poison.

Normal acid producing bacteria usually perish and disintegrate with the material in which they first find support.

During the process of putrefaction they develop an artful chemistry that is dangerous to human life.

The little cells that quicken our bodies into life, render us useful service as coajutors in playing the role of death, and the varied kinds that assist us in health, or that afflict us with disease, may be aptly compared to the warriors of many nations who once pitched their tents and fought their common battles in the open plains of Esdraelon.

Bacteria consume undigested particles of food. They feed on material that is gathered in excess of nature's demand.

It is a misapplied theory to place normal bacteria in the line of malignant foes. They guard us in health, and warn us in disease. The alimentary canal is provided with a chemistry that is capable of doing creditable work with a store of useful reagents.

The air that we breathe into our lungs is laden with a supply of vitalizing germs.

In the food that we daily eat, that is intended for the support of our bodies, we prepare a soil for bacterial growth, and the great law of compensation that will give and receive, attends us to the grave.

In those persons who suffer most from bacterial poisons, a sour breath is ever present, and is easily detected by the sense of smell.

To clear a germ laden system of its foul material is a task that will require the work of twenty four hours. For all chronic cases of bacterial poisoning we are called on to use time, judgment, skill and patience, or else suffer the sequel of disappointment. Infants that suffer attacks of colic are the unfortunate victims of excessive feeding on the part of sympathetic mothers, who often fail to distinguish a difference between the fitful scream of colic, and the hungry cry for milk; in either case, the mother's breast, or a rubber nipple, when placed in the baby's mouth will stop its wakeful warnings.

Milk infection occurs mostly in the warmest months of the year—it is a form of bacterial poisoning that demands prompt and skillful treatment by the speedy and complete removal of any and all infected material in the gastro-intestinal canal, or else a funeral may be invited.

In the tall Forest of Buford I once attended a small wizen-faced infant for acute intestinal infection, its bowels and stomach, both, were in open rebellion and active display; finding it to be a case of milk infection I at once summarily ordered a discontinuance of all food supplies, and directed the frequent, and liberal use of water, enough to pacify the cries of the patient, at the same time assuring the young mother that I would again visit her child in due time to adjust further treatment; but until my return not to feed it on anything but water, and to resist any temptation to do otherwise. Next day an urgent summons to visit another patient took me far away, returning home on the fourth day of my absence. I found the anxiously expectant mother awaiting further orders, true to the faith she had rigidly obeyed my instructions, and expressed surprise that her little one had surely gotten fat on water, the baby's face was round, and it greeted me with a cheerful smile.

BOOK REVIEWS

Practical Medical Series, 1913, Volume 4 and 5.—Gynecology by Dudley Stowe. Volume 5, Pediatrics and Ortho-pedic surgery by Abt and Ridlon, published by the Year Book Company. These books are a practical contribution to these subjects and ought to find a place in the doctor's library. Price of each is $2.00.

Malaria, Etiology, Pathology, Diagnosis, Prophylaxis and Treatment.—By Graham E. Henson, M. D. 27 illustrated pages and published by C. V. Mosby Book Company, St. Louis. Price $2.10. This is a practical book on the subject of malaria, furnishing a comprehensive review and knowledge of this disease and is worth while.

International Clinics, Volume 2, 23rd Series.—Price $2.00. Published by J. B. Lippincott Company, Philadelphia. Articles of Diagnosis and Treatment appear by Illman, Hemenway, Abrams, Knowles, Babcock, Gibson and Rose. Articles on Medicine appear by Browning, Watson, Sewall, Davis, Ochsner and Remington, Surgery and Surgical Clinics, by Skillern Royster, Boyer and Reed. A good volume.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. BOWLING GREEN, KY., NOVEMBER 1, 1913 No. 22

EDITORIAL.

THE ANNUAL DUES.

It is not too early to call the attention of our readers to the importance of payment of dues on or before January 1st. It is well to remember that the county secretary gets no more compensation than the other members of the county societies. You are not doing him a favor by paying your dues promptly but are simply keeping yourself in good standing as you would in a lodge, insurance company or a subscriber for any other periodical or belonging to any well regulated organization. The Kentucky State Medical Association is doing a lot of work that must be done on time and must be paid for in cash. It assumes a lot of responsibility for you. Twice a month it sends you this JOURNAL giving you this medium of communication with your fellows on any subject which you think will be of interest to them and giving them the opportunity in turn of informing you of their views on developments in scientific medicine or in medical economics or what not. In the next place, it proposes to defend you from unjust suits for malpractice and gives you through its county society an opportunity for postgraduate and scientific work that is unequaled. The Association cannot be conducted so as to command your respect unless it is conducted along business lines; consequently, you can obtain none of these benefits unless you remain in good standing in the Association; and, to do this, you must pay your dues on time to your county secretary. If not, you are automatically dropped from the roll.

The Medical Society of the State of Pennsylvania, as indicated by the reports presented at its recent annual session, is laboring under the old plan, where a member once on the roll remained on until he was suspended or expelled by a formal vote of his local society. Every one can understand how much better the automatic plan is. The secretary of a county society, as your agent, receives your dues. It does not spite him for you not to pay them; it simply drops you from the roll of and deprives you of the benefits of membership. Our Pennsylvania brethren propose to adopt a more rational plan. We feel sure they will be pleased when they do. The Kentucky State Medical Association has had a larger membership and a far more effective one since it has adopted business methods.

In order to demonstrate that all this is true please pay your county secretary your dues for 1914 the first time you see him.

SOUTHERN MEDICAL ASSOCIATION.

The Southern Medical Association, which meets in Lexington, November 18, 19 and 20th, will be the largest and most distinguished gathering of medical men, which has been held in Kentucky for many years. More than one thousand of the most distinguished men in the South will be there and will communicate the very latest developments in the diseases peculiar to our Southern states, to one another and to us. There is no other medical body in this country, which is so peculiarly devoted to scientific medicine as is this organization we are to have the honor of entertaining. During the past year, its membership has increased practically a thousand; it publishes one of the most attractive and cleanest medical journals in the country and is really worth while.

Kentucky has ever had a reputation for its hospitable reception of its guests; that Lexington will out-do any former entertainment that has been given the Southern Medical goes without saying. The important thing is that the medical profession of the rest of the State gathers together with our confreres, both of Lexington and the whole Southland, to indicate to them in some measure how much we appreciate their coming to us with their great meeting.

FEE-SPLITTING.

The recent session of the Indiana State Medical Association was a splendid one and we wish all the profession could have gained the inspiration from it that the Editor did. As interesting and important as was its scientific work, it certainly passed an epoch-making resolution in regard to fee-splitting in the following amendment to its Constitution and By-Laws:

> **"This Association does not countenance or tolerate fee-splitting, division of fees or commission paying, directly or indirectly, and any member found guilty shall be expelled from membership."**

This is the most advanced step which has been taken on this subject by any medical organization. Comment on it is unnecessary as it is complete in itself. The Journal congratulates the *Indiana Medical Journal,* which has led the fight against fee-splitting, and the entire profession of Indiana, which have shown their real determination to clean their Augean stables. We heartily commend this action not only to Kentucky but to every State Medical Association. Fee-splitting is dishonest and for the profession's own sake, it must be stopped.

MALARIA.

When you see a patient apparently suffering from malaria, be sure to secure a slide and send it in to the State Laboratory before giving quinine. After quinine is given, the malarial plasmodia cannot be detected. Send the specimen in to the Laboratory and get your diagnosis confirmed and learn that in most cases it is wrong, as there is very little malaria in Kentucky, and in ninety-nine cases out of a hundred it is unnecessary to give the quinine at all.

TYPHOID VACCINE.

The State Board of Health can furnish typhoid vaccine from its Laboratory for $2.10 for a package containing enough serum to protect ten persons. These packages are being shipped to our physicians in large numbers and we desire to caution the profession that they should not, under any circumstances, be used upon a patient who already has fever or who is sick with other diseases. Vaccination against typhoid fever is only administered to the healthy while they are well. The serum used during an attack of typhoid fever is prepared entirely differently and this also is furnished by the State Board to physicians at 40% discount from the usual list price, but we desire to emphasize the great danger of anaphylaxis in the use of the protective vaccine against typhoid fever except in persons in good health.

SCIENTIFIC EDITORIALS.

PROGRESS IN DERMATOLOGY.

It has not been so very long ago since the dermatologist occupied a very unique position in medicine. He was classified with the "beauty doctors" of Madam Yale or Prof. (?) Woodbury's type. Even now, the laity as well as some members of the medical profession think that the dermatologist's only duty is to prescribe this or that salve, this or that lotion.

We can readily forgive the laity for such a mistake, but the members of the profession ought to know that there exists a wide relationship between skin diseases and internal troubles. I think it was Dr. Virchow who said that "no specialty can exist which does not contain some relationship with general medicine." This particularly applies to dermatology.

Bad thinking is always bad enough, but never worse than in medicine. If the general practitioner would only think and realize what relationship skin diseases have to internal organs, they would not classify the dermatologists with the "beauty doctor." If we rid a young man or a young woman of a face full of pimples and indurated bumps we are no more "beauty doctors' than a surgeon who does plastic surgery. The dermatologist, to my mind, must be a very scientific physician. He must know the chemistry, pathology and history of the skin and tissues. Unlike the general practitioner, he does not regard the skin as only a covering of the body. He recognizes the skin as an influence of the body, responding often and readily to the most varied influences arising within the economy. Let us take acne, for instance. The general practitioner treats it as a slight ailment and regards it only as a manifestation of puberty and does not pay much attention to it. The dermatologist looks upon it from a more scientific point of view and regards it as a more serious affection. And it is serious, considering the unhappiness, embarrassment and despair it causes many a young woman or young man afflicted with it.

Though some authors, particularly Adamson, Gilchrist and Engman, think acne vulgaris entirely due to bacillary origin and have done some brilliant work in this field, yet the majority of the writers do not agree with them and attribute this disease to metabolic disturbances. To enthusiasts of bacillary origin of acne, acne-bacillus means perhaps everything, but to the more thinking investigators, this presumptive causative agent does not seem sufficient to explain all causes of this disease. The same is true of eczema, lichen and a great many other skin diseases.

Urticaria is another affection that is held by the general practitioner as a slight ailment. Urticaria is not only a manifestation of auto-intoxication, but is often the result of psychic neuroses, liver and gall bladder disturbances, albuminuria, diabetes-mellitus; often it is due to uterine and rectal derangements.

Though dermatology has made wonderful strides in the last decade, still it suffers from many short-comings. Though we may consider ourselves highly scientific, we often feel chagrined when an intelligent patient asks us: "Doctor, why have I got this disease?" We cannot answer. We must not get discouraged if our answer is "I don't know." We must study, investigate, until we do find out why one person is susceptible to skin diseases while another is immune. Let us carefully study the skin in normal and pathological conditions and its changes due to internal secretions or external influences. Immunity, anaphylaxis reactions are only by-words, evading methods of answering the real question. We do not know much, and we are afraid to acknowledge it. This is true not only of dermatology, but of general practice of medicine as well.

Of course, we, dermatologists have a great advantage over the internist or as Dr. J. C. White said, "we have our pathologic fields under our very noses and we can employ all our senses, including our eyes—our best trained organs of sense,—while diagnosticians in many other branches of medicine must often work in the dark and grope their way about, guided only by their sense of touch, of sound or of smell."

But since dermatology is a very important part of medicine, we must go hand in hand with the general practitioner and study this important branch more thoroughly than ever before.

It is rather unfortunate that dermatology was scarcely recognized as a specialty in the South. No systematized instruction was given in any school of medicine. There was no special clinics connected with them, and in our hospitals, no wards set apart for the treatment of skin diseases. There was hardly a physician exclusively engaged in the practice of this class of affection. Times and sentiments are changing, and I hope to see our schools make every effort directing to the foundation of laboratories devoted to research into essential nature of skin diseases. I hope to see the medical students of our schools take up its study after two or three years of histology, biological chemistry, pathology, bacteriology and all practical methods of microscopy. They will come thus prepared to apply this knowledge to the proper understanding of the wide pathological panorama which skin diseases present.

M. L. Ravitch.

"SOCIAL SERVICE DEPARTMENT."

The practice of medicine in all of its many branches, research laboratories with their complete equipment, hospitals both special and general, all have for their prime object the alleviation of disease, pain and the postponement of death.

Social service endeavors to make use of the information furnished by medical research and investigation, adding to it facts having to do with the economic, mental, moral and religious problems of our lives and has for its object the prevention of disease on one hand and the remedying of those evils which prevent our people from obtaining their full share of work and play, or study and recreation, of physical well-being and spiritual inspiration.

The physician performing his daily duties is in constant touch with the progress of medical science but not always does he have the time or inclination to familiarize himself with the progress of social movements and it seems not unfitting that this department appearing as it does in a medical journal may through its columns give at least a glimpse to the busy practitioner of the work being done by those social forces which are moving with him toward a common goal.

The Editor of this department will always be delighted to answer any questions which the subject matter therein may call forth from its readers and when he cannot answer such questions, he pledges himself to secure the information from the most reliable sources.

Articles bearing upon social service appearing in a magazine will be obstracted and clippings made.

* * * *

Communities, whether county, town or city in employing visiting nurses must not only look to the professional nursing qualifications. but must realize that to work out the problems which will constantly confront such a worker, it is equally essential that there is in her possession a knowledge of social agencies and if possible, some previous experience in cooperating with such agencies. Without some such practical experience, the nurse finds herself absolutely at sea and there is a consequent waste of time, energy and thought.

* * * *

The highest type of social service man or woman is found when thorough, accurate medical training is balanced by a full knowledge of and practical experience of social forces at work in a community.

* * * *

A village minister went to conduct a funeral in the rural district adjoining his town. He found a hundred people there, and on asking where they went to church was told nowhere. He had lived adjacent to this community for seventeen years, but thought it no concern of his. This time, he saw light; found that only fifty of the two hundred people thereabouts ever went to church; started services in the schoolhouses Sunday afternoons; discovered that these touched only those already religously inclined; instituted various social and educational activities, among which was a county fair, with genuine agricultural exhibits, no side shows, nothing sold, only local talent and games for amusement, and with an attendance of three thousand. To-day, after four years of this, he finds the entire community—every individual in it—possessed of a new spirit of neighborliness and good-will, and actually raised to a higher plane of living. The final test, from the church's standpoint, has been met, showing sixty-nine church members where before there were three, and every one of the two hundred people looking to the minister as friend and pastor.—*Survey,* Aug. 30, 1913.

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The man who has "had more fights, harder fights and has 'licked' more persons in the last six years than any other man in New York," is not a prize fighter, or a gangster, or even a policeman, according to a writer in the *New York Press,* but a priest of the Catholic church. He is the Rev. Phillip J. McGrath, of St. Peter's Union Mission for Seamen on West Street, the down-town North River waterfront. Father McGrath does not fight because he likes it, but because he found that the water-front people are not the kind that can be persuaded to be good. "As long as they know that I am master here they will be good, and then being good will become a habit with them," is the way Father McGrath explained it to the reporter. Father McGrath, we learn, came to West Street from a rural parish.

"Because I am master in this neighborhood my people respect me and trust me, and I am able to do good. Why, every year I send home to the wives and mothers of sailors at least $12,000. Hardly a day passes that I do not receive a letter from abroad from a mother or a wife asking me to find the missing sailor laddie. Ofter I do. The young boys in this neighborhood are growing into better men, I believe, because the church takes an interest in them. I have their respect because I can trash any of them. The clean-living the church is teaching them is having its effect. The tone of this community is being elevated, and in a few years it will give the police less trouble than any other section of New York. You may call me the 'fighting priest' or whatever else you like. I fight because fighting is the one thing necessary here just now. When fighting is no longer necessary, I will do no more fighting."—*New York Press.*

* * * *

The bad policeman, the bully, or the grafter has been so much to the fore in newspaper stories of late that a sympathetic account of one "cop" who was loved and respected by all who knew him, and especially by the people who lived on his beat, comes to us a grateful relief. Andrew J. Hamilton of Baltimore, declares Peter Clark MacFarlane in Collier's Weekly, is truly a "successful cop."

At twenty-nine years of age Andrew J. Hamilton, young, vigorous, and ambitious, with dark hair and mustache, with blue, hopeful eyes, donned a patrolman's uniform and walked out upon a beat in the Eastern Police District of Baltimore. He had deliberately chosen a policeman's career. He knew that civilization requires policemen. He was brave and clean and loyal. He was unimpeachably honest. He expected to shirk no duty and he expected the character of his service to be recognized. He had not a doubt of winning promotion. Down the road a little way he saw a sergeant's stripes awaiting him, and beyond that the bars of the lieutenant and the captain.

"But now, after thirty years, his hair is gray, his mustache is white, the blue of his eye has even faded a little, and he still patrols a beat. Promotion has never come. He knows now it will not come. He will walk a beat till death or disability overtakes him. He began at $18 a week; now he gets $20.

Yet the man "feels that he has made a success of life". He has, according to the writer in Collier's, and it is because he has made the most of his "vast and recurring opportunities for adventures in friendliness," during these thirty years, the last twenty of which have been spent upon one beat.

It is humanity which has won the officer the place he holds in the esteem of the people. Women talk to him about their husbands; fathers consult him about their sons; girls who are in trouble and young men who have involved themselves dangerously make him their confident. He has saved many a heart and many a home from breaking. He has united lovers and protected the honor of proud homes and to this hour do not even dream of the service rendered.

The district is a peculiar one in that the well-to-do, the middle classes, and the very poor are all represented in it. Officer Hamilton accepts the poor as his particular charge. They have more need of an angel in blue and brass. He knows every case of sickness on his post, and knows, too, if that or accident is likely to be accompanied by want. He has connections that tap the sources of charitable supply, and often is able to bring relief or prevent suffering and hardship to the people in his alleys. On Christmas Day he is likely to spend the whole morning tramping here and there with baskets of provisions, unable to enjoy his own Christmas dinner until he knows others are having theirs.—*Collier's Weekly.*

* * * *

For the prevention of the ill effects upon health from industrial processes or conditions, the following measures should be adopted.

1. To collect complete and accurate data about industrial processes and about conditions under which the various industries are carried on.
2. To obtain more accurate and detailed information relative to occupation on morbidity and mortality records.
3. To instruct the medical student in this important field of preventive medicine by a course of lectures on the more important industrial processes and the disease to which they give rise.
4. To place the specific industrial diseases on the list of diseases notifiable to the central health authority.
5. To examine periodically all workers in certain industries. These industries should be named by the central health authority.
6. To exclude minors and women from certain industries which are designated by the central health authority as injurious to health.
7. To have adequate laws regulating sanitary conditions and protective devices in industrial establishments, and to have such laws intelligently enforced.
8. To have the central health authority issue regulations for certain dangerous trades, with instructions to employers and employees, showing them how they may guard themselves against the ill effects of their work, and to have such instructions posted in the workrooms.
9. To carry on an extensive educational campaign, both among employers and employees, as to the value of protective measures and good sanitary conditions.

Dunning S. Wilson.

OFFICIAL ANNOUNCEMENTS

OUR TRIBUTE TO DR. JOSEPH BENSON MARVIN.

While in session at Bowling Green, Kentucky, September third, nineteen hundred and thirteen, the Kentucky State Medical Association heard of the death of Dr. Joseph Benson Marvin, Louisville, Kentucky.

Traveling through Connecticut, over the New York and New Haven Railroad, with his wife and eldest daughter, his train was wrecked killing him and Mrs. Marvin instantly, the daughter dying en route to a hospital. The bodies were identified, brought to Louisville and interred in Cave Hill Cemetery September fifth.

Dr. Marvin was born August third, eighteen hundred and fifty-two, in Monticello, Florida. He received his preliminary education in the schools of his native state, later attending the Virginia Military Institute, at Lexington, Virginia, graduating when but eighteen years of age. He taught in his alma mater until he entered the Hospital College of Medicine, graduating from that institution in eighteen hundred and seventy five. Locating in Louisville he began practicing and teaching medicine which he continued until his death, holding at that time the Chair of Medicine and Neurology in the University of Louisville, Medical Department, and being also President of the faculty. He was a member of the Jefferson County Medical Society, Kentucky State Medical and American Medical Associations. He had been President of the State organization and had held many other positions of trust and honor both in and out of his profession.

Dr. Marvin possessed an intensely scientific mind. A man of independent means, absolutely removed from pecuniary considerations, he engaged in his professional work from sheer devotion to its problems. Few men kept in as close and intimate touch with the tremendous progress which medicine made during the nearly half century of his professional activity. His restless, keen, analytical mind seemed never satisfied short of complete mastery of everything, practical and experimental, which touched his chosen work. His library always welcomed the newest and best of his own and foreign tongues and had become one of the most complete in the middle west. His appreciation of modern laboratory investigation was evidenced by the maintenance of a well-equipped plant in his office, doing, personally, the greater part of his own work. For a number of years much of his time was devoted to consultant work and the membership of this body, both in his city and throughout the State, has drawn heavily upon his skill as a diagnostician and his experience as a therapeutist. His readiness and promptness in meeting his professional obligations were, alike, a source of pleasure and inspiration to his associates. The attending physician of the laborer met with as ready response to a call for help as did that of the banker. His unselfishness coupled with an amazing activity presented a personality calculated to inspire both admiration and emulation. He was an earnest advocate of more thorough medical education and labored unceasingly to attain that end. While hating

DR. JOSEPH BENSON MARVIN.

inefficiency and impatient with mediocraty, recognizing the need for constant betterment, he acknowledged a reasonable evolution in conforming to changed conditions and dedemands.

As a teacher he was at his best; possessed of a ready speech, vigorous manner, forceful style and masterful analysis, his didatic and clinical instruction made a lasting impression upon his hearers.

This Association is keenly conscious of its loss; deplores the tragic and untimely end; grieves with the son and daughter left to mourn; feel honored by his interest in its behalf; expresses admiration for his unswerving loyalty to his ideals; is proud to acknowledge his worth and bows its head to the God whom he delighted to serve.

(Signed).

AP MORGAN VANCE, Chm.
D. M. GRIFFITH,
JNO. H. BLACKBURN,
Committee.

DR. JOSEPH BENSON MARVIN; AN APPRECIATION AND A TRIBUTE.*

By LOUIS FRANK, Louisville.

My affection for Dr. Marvin as a friend, and my association with him was of such intimacy as do not becomeingly permit of eulogies from me. He would not approve it and to me there was a respect and love for him like unto that of a son for a father, a relationship too honored to discuss. I do, however, upon this occasion, and at this memorial meeting of his associates in the medico-chirurgical society of which he was for so long an honored member, desire to pay this slight tribute to his memory:

Born in Monticello, Florida, August 3rd, 1852, Dr. Marvin ceased existence in this world on September 2nd, 1913. His childhood and early boyhood were passed in a southern atmosphere. His education was rounded out in the Virginia Military Institute with all its traditions, and still dominated at the time he attended by the spirit if not the person of that Christian gentleman and soldier, "Stonewall" Jackson. This training served only to intensify young Marvin's character and enabled a mind naturally bright and perceptive to appreciate the more the inflexible exactions of duty and the necessity for performing that duty well.

Dr. Marvin came to Louisville, which was to be his future home, in 1871 and entered upon his professional studies in the Hospital College of Medicine from which he graduated two years later as Doctor in Medicine. Following post graduate study in New York City, (and special work in chemistry), he returned to Louisville and at once entered upon the career of teacher in his Alma Mater, being at this early age elected to the professorship of Chemistry. His work was marked with that earnestness and zeal which at once marked him, at a time when Louisville had many intelligent giants in medicine, as one of the best and leading teachers in the South. He was soon called to fill the Chair in Medicine and in this field will be best remembered by many of the thousands who are graduates or were students of the schools in this city.

As a teacher Dr. Marvin had few equals. A diligent and constant student, with a deeply scientific interest in his profession, his discerning mind at once selected of the newest that which was best and presented it to his classes so that his teaching was ever abreast the advances being made in medicine. His training in chemistry and in pathology, and the precise methods required in the laboratory, gave positiveness and character to his utterances. A man of culture and learning, an original thinker with his knowledge arranged in orderly fashion, his lectures were systematic and thorough, clearly expressed in language of the simplest, in a manner impressive without pedantry, in a style most pleasing, showing always his complete mastery of his subject, the wide scope of his reading, his earnest study and his marked ability. In his clinical teaching this was probably best brought out and here his keen power of observation and his wonderfully quick perception were best displayed, his tremendous fund of information being brought to bear on the cases examined.

In the faculty his personality, his honesty, his high ideals of medicine and of teaching were ever an inspiration. His earnest efforts for the advancement of medical education, with his persistance and largely his advice and influence, made possible the ultimate merging of the medical colleges in Louisville. To this movement he gave of his time and energy much and to him more than any one man is due the credit of giving to Louisville a first-class medical institution. He bore silently, though most unjustly, the criticisms of those who failed of election to the faculty in the reorganization of the Medical Department of the University of Louisville. His labors in the University were, however, always of the most unselfish and truly altruistic.

As a consultant his services were in great demand and his advice and counsel most frequently sought. He practiced medicine for the love of it and while numbering among his clientele many of Louisville's wealthiest families, among his patients were very many who found themselves unable to remunerate him. Of doctors and their families, of preachers, of medical and theological students he had the largest following of any physician in the city. It is these latter, professional men and students, who will most miss his ministrations. He was my own personal physician and when I speak of his gentleness in the sick room, of his kindness, of his sympathy, of his constancy and his many attentions I know whereof I speak.

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*Read before the Medico-Chirurgical Society, Louisville, October 19, 1913.

And with all these activities Dr. Marvin found time for much benevolent work. As a member of the Board of Baptist Orphans' Home he gave freely of his time, not only in looking after the physical welfare of its inmates but in the management of its affairs, and being a good business man these were most admirably looked after. He was beloved of all the children and had served as their medical advisor for twenty-five years. As one interested with him in the Orhpanage said of him: "It is worth a lifetime of work to be so beloved as Dr. Marvin is by the little children of the Home. There is no sight more tender and beautiful than the good physician with one little one in his arms and a rosy group clinging lovingly around his knees. Dr. Marvin looks after things both great and small that effect the Home. He is never too busy to spare time for its work—never too weary to answer its calls."

As a citizen and a man he was of the highest type. A consistent Christian gentleman, he did not use the church as a cloak nor was he blatant nor conspicuous in his religious professions but quietly, unostentatiously he practiced his creed, was firm and unswerving in his beliefs and his morals, doing unto others as he would be done by—giving much to the poor and needy but saying nothing. There was no show, no bluster and few knew his many benefactions. He took an interest in all that was best for the community and his influence was one that was felt and will long leave its impress upon, not only this city, but upon the State. His benefactions in behalf of the mountain school at Oneida is a matter of public record, but this is only one of many gifts for most worthy purposes.

Dr. Marvin was never a seeker for notoriety whatever he may have done for the public weal, for the church, for his profession or for the individual, was never mentioned. He sought neither credit nor praise for his good deeds, his charity, nor his aid, but was satisfied that they meet his own approbation and that he knew they were right. He cared not for the praise of men but acted from conviction that he did right—that his lip and his ability were a trust and for that feeling one has in his inner consciousness than one's work is well done. Though brusque of manner, he was most kindly at heart—his affections and his attachments were deep and lasting, and his manner was largely a cloak for a most appreciative and sensitive heart. He was a most loyal friend and once his friendship was obtained, this loyalty was unswerving. Having a deep insight into human nature and knowing the heart of men he was not easily misled in bestowing his friendship which made it the more valuable to those to whom he opened his mind and heart, full of humor, of kindliness and of wisdom. Flattery or cajolery were not to be used with him as being a sincere, straightforward and honest man he had no patience with hypocrisy or cant and his estimate of men was rarely wrong. Dr. Marvin was, however, a just man and always gave credit to merit even though it may have been in those who did not aspire to his friendship or may have been his enemies—and he had his enemies as do all men who achieve in this world, be it fame or success, be it honor or high standing. But to these enemies he gave each his just due and would be the last to detract from them. He therefore had not only the love of his friends but the sincere respect of those who were not so considered. What higher tribute can be paid any man?

His presence will be missed by his friends, by his colleagues in the Medical School, by the profession of which he was for so long such a brilliant star, by his church, by the city and by his State. Long may his memory live and I am sure it will by many be cherished.

"His high broad forehead, marble fair,
Told of the power of thought within;
And strength was in his raven hair,
But when he smiled a spell was there
    That more than strength or power could
        win."
"Yon rising moon that looks for us again—
How oft hereafter will she wax and wane;
How oft hereafter rising look for us
    Through this same Garden—and for one
        in vain."

Endocorditis, Chronic.—Treatment. — Three cases stated to have been cured by injections of fibrolysin in conjunction with concussion of the seventh cervical spine to elicit the cardiac reflex of contraction.—Abrams.

ORIGINAL ARTICLES

SYMPOSIUM ON DISEASES OF GALL BLADDER

THE SYMPTOMATOLOGY AND DIAGNOSIS OF GALL-BLADDER DISEASE.*

By J. B. Lukins, Louisville.

In the study of the various conditions and diseases of the gall-bladder, we perhaps find more points of interest than in any other one chapter of medicine or surgery.

The recognition of the cause of pain in the right upper quadrant of the abdomen is a problem that continually confronts us and often baffles our diagnostic skill.

Until Marion Sims, a few years ago advanced the idea that surgery offered a solution of gall-bladder troubles, the condition that we now recognize as cholecystitis, cholangitis, obstruction of the common duct, etc., were most all classed under the one head of jaundice and treated as such.

With the application of surgical principles a great evolution has taken place. We have learned that the jaundice is only a symptom, the result of either an inflammation or a mechanical obstruction.

Unfortunately, our means of diagnosis of the exact condition present in the gall-bladder or ducts have not kept pace with our methods of treatment. The laboratory, which solves so many intricate problems for us, both in medicine and surgery offers very little when it comes to the determination of the cause of colic or the exact location of a gall stone.

With the presence of a purulent inflammation, we find a leucocytosis, but in making a diagnosis of cholecystitis or cholelithiasis we can not often be guided by the white blood count.

While we recognize several distinct pathological conditions occurring in and about the gall-bladder, yet it is rare that one occurs absolutely independent of the other. Naunyn, who was the pioneer in working out these conditions, taught us that inflammation of the bile passages and bile ducts was essential to the precipitation of cholesterin—in other words, that we have a cholecystitis before we have stones. Though this is vehemently denied by some it is, I think, well proven both by clinical experience and pathological findings.

It is also true that cholelithiasis usually precedes cancer.

Disease of the gall-bladder is an exceedingly common condition, stones being found at autopsy in 10 per cent. of all cases dying from other causes. It occurs three times as often in women as in men, and more often in women who have borne children. Unlike appendicitis, it rarely, if ever, occurs in children, seventy-five per cent. occurring in people over forty years of age.

In an effort to arrive at a correct conclusion in these cases, it is essential to get an accurate and complete clinical history. I would emphasize the importance of the history for it generally proves of more value to us than either the present symptoms or the physical findings. Of especial value to us is it to know if the patient has ever had typhoid fever or is subject to attacks of tonsillitis.

The bacillus typhosus inhabits the gall-bladder during or after every attack of typhoid and as a result of this, we have either acute cholecystitis with fever, or a slow low grade catarrhal inflammation which is apt to be followed by stones.

People who give a history of recurring tonsillitis are prone to gall-bladder trouble. Whether this is the result of a gouty diathesis as formerly believed, but now denied, or whether it is a secondary infection by way of the blood, lymph, or alimentary canal, I can not say, but I have seen it so often that I am impelled to state it as a fact.

There are two types of cases, the one that gives a history of chronic digestive disturbances, usually called stomach trouble or dyspepsia, and the other a history of repeated attacks of colic with sharp lancinating pain followed by slight fever, nausea and sometimes jaundice, such an attack lasting from 2 to 5 days. Of the two, the former is the most common and the symptoms are often misinterpreted. Colic is a late symptom, occurring in only 5 to 35 per cent. of all cases.

It is often said that gall-stones in many cases cause no symptoms; they do cause symptoms but they are symptoms referrable to the stomach, rather than to the biliary tract, that is, they may cause symptoms for years without causing jaundice or gall-stone colic.

The symptoms of dyspepsia referred to are nausea, distress after eating, loss of appeite, flatulency and usually constipation. Hyperchlorhydria is a valuable secondary symptom, being found in 70 per cent of all cases.

In cases of hyperchlohydria, with these dyspeptic symptoms, in which gastric and duodenal ulcer are excluded before the diagnosis of nervous dyspepsia is made the presence of disease of the gall-bladder should be carefully considered.

Dr. James Sherren of London says that the dyspepsia due to gall-stones is to be recognized by the four following points:

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*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

(1) Always accompanied by gas and distention.

(2) The patient is frequently awakened at night.

(3) The pain is not relieved by taking food.

(4) Vomiting is usual.

In the type of cases subject to gall-bladder colic we find that they are generally hearty eaters with a spasmodic craving for coarse and heavy foods, an attack of colic usually following a hearty meal. They are frequently robust in appearance and between attacks are apparently perfectly well.

The pain of gall-bladder colic usually comes on suddenly and is very severe. It is a sharp agonizing pain, worse over the gall-bladder area and radiates to the back and the right shoulder. This is accompanied by nausea and profuse perspiration and followed by great prostration and usually some fever. The pulse, which is slow between attacks and at the beginning of an attack, now becomes rapid and often weak.

The pain of gall-bladder is usually due to the passage of a stone through the ducts and occurs in its greatest intensity at this time, but as pointed out by Reidel this is not always the case, as other factors such as an inflammation with the neck of the cystic duct occluded by either adhesions or a stone.

It is my observation that a slow inflammatory process or adhesions cause pain over the gall-bladder, but not colic. However, I have seen intense colicky pains with vomiting and exploration revealed only acute cholecystitis but no stones.

Jaundice is an important symptom and one that is always looked for, but is by no means always present. Occlusion of the common duct causes very marked jaundice. Slight jaundice is observed several hours following the passage of a stone through the ducts and a more or less sallow complexion always accompanies an inflamed gall-bladder. Murphy states that 86 per cent. of his cases never had any jaundice. Many cases who came to us without jaundice will give a history of having had jaundice several years previous, if we are sufficiently painstaking to ascertain it.

Fever is a symptom of practically all gall-bladder conditions, especially following an attack of colic. This fever is the result of infection and not as formerly supposed, due to reflex causes or mechanical disturbances. As a rule the fever is not high and rather variable.

There is often a chill with a sudden elevation of temperature followed by an equally sudden fall. The fever is never of long duration.

By examination, we find tenderness under the right costal arch and perpendicular pressure over the gall-bladder usually causes pain. The gall-bladder is often enlarged and sometimes palpable. Continued or recurring infection of the gall-bladder with inflammatory thickening and cicatrization will undoubtedly cause a shrinkage and it has been pretty well proven that not 50 per cent of chronically diseased gall-bladders are either enlarged or normal in size.

It is of great advantage to see the patient in the attack for, as Dr. Murphy says, "It is only then that we can avail ourselves of the positive signs of the presence of acute retention of bile: thatac ute retention gives a tention of bile: that acute retention gives a tenmediate diagnosis. All in the way of physical signs, disappear as soon as the acute retention is over."

Negative physical findings are the rule in these cases and I believe physical examinations to be chiefly valuable in ruling out other resembling conditions.

It is not uncommon to see complete absence of all objective symptoms and we are often surprised afterwards at the extensive pathology found to be present. Occasionally, gall-stone crepitus may be perceived. This sign furnishes positive proof of the presence of gall-stones, but can only be found in a very small per cent. of cases even where stones are present.

Laboratory evidence is only supplementary of the clinical history and the symptoms.

We often find bile in the urine and none in the feces, a fact indicative of obstruction. The white blood count is often increased and haemaglobin and red cells reduced, if the case is of long standing, any one or all of which may be entirely lacking.

It is often possible with a fair degree of accuracy for the internist to determine just what part of the gall-tract is diseased and if a stone is present to tell where it is located. Gall-stones are almost invariably formed in the gall-bladder and it is only when they begin to move around that they cause acute symptoms. Stone in the common duct, with complete obstruction causes pronounced and lasting jaundice.

Septic infection with intermittent fever usually accompanies a movable stone in the common duct. Charcot was the first to describe this condtion and it is still known as "Charcot Fever." It is difficult to diagnose from malaria, the patient having the characteristic chill, fever and sweat. It can be done by examination of the blood and the administration of quinine.

Obstruction of the cystic duct causes an acute exacerbation of the slow inflammatory condition present in the duct and gall-bladder. This great tension with the infection, will in a short time result in gangrene. At first the gall-bladder is enlarged and later reduced in size as the inflammation subsides and shrinkage takes place, the symptoms become less acute and may disappear entirely, except those of chronic indigestion.

On this same point Dr. Murphy says, "The cases of infection in the gall-bladder have manifestations in the way of elevation of temperature, varying with the location of the foreign body. When it is in the gall-bladder you rarely have a temperature which exceeds 101 degrees F. When it is in the cystic duct and there is sepsis present, you frequently have a temperature running to 103 to 105 1-2 or 106 degrees F. When it is in the common duct with the stone retained there, and there is infection present, the patient has chills and fever the same as he has when it is in the cystic duct, with high temperature and icterus added to it."

The possibility of cancer should be carefully considered in cases of chronic jaundice. Cancer of the gall-bladder or ducts does not cause the characteristic colic or septic symptoms. The gall-bladder is enlarged and a hard and nodular mass can be made out. The diagnosis of cholelithiasis comprises the recognition of gall-stone colic and of the many and varied associated lesions and sequels. Severe pain in the right hypochondrium radiates around to the right shoulder, accompanied by nausea and vomiting and enlargement and tenderness of the gall-bladder and followed by jaundice and characteristics of the passage of a gall-stone.

Cholecystitis without stones may produce the same symptoms and it is only necessary to be able to recognize the picture when we see it, whether it is manifested by the acute colic or long-standing indigestion for the indications in the way of treatment are the same. No man of experience will state positively that a stone is present even with all the characteristic symptoms. The X-ray is of very little practical value only showing the stone in 15 per cent. of cases where stones are present.

The severe pain of gallstone colic may be imitated by renal colic or intestinal colic. In renal colic the pain radiates from the lumbar region into the lower abdomen, groin, thigh, testicle and, head of penis. The lumbar region is often tender on pressure and the urine may show blood and calculi. In intestinal colic the pain is more in the region of the umbilicus, it is relieved by the passage of gas; there is no jaundice or other symptoms. In appendicitis the pain is localized over the appendix. There is tenderness on pressure and often swelling. Examination of the blood shows leucocytosis. Both appendicitis and disease of the gall-bladder are sometimes found to be present in the same patient at the same time. Dr. Forcheimer says that "Cholecystitis resembles appendicitis in that one attack predisposes to another and also in the fact that a moderately severe attack may become latent or temporarily quiescent without, however, entirely clearing up. Cholecystitis differs from appendicitis in one very important particular: the exacerbations are not nearly so likely unexpectedly to assure serious or even dangerous aspects."

It is rare in gall-bladder disease that it is necessary to decide quickly as to the exact diagnosis or the method of treatment. Since surgical emergencies are here the exception we can afford to take a little time to watch the case and to verify by the symptoms the history as given by the patient.

Neither the laboratory findings nor the physical examination will in most cases decide positively the diagnosis for us. An accurate history is not only important, but essential and on this evidence more than any other, we must base our conclusions. It is highly desirable that we differentiate the different diseased conditions that may exist in the gall-bladder and ducts, but it can not always be done, nor is it essential for the surgical records of the last few years furnish ample proof that exploratory operations are justifiable.

MEDICAL TREATMENT OF CHOLECYSTITIS.*

By W. F. Boggess, Louisville.

When asked by the Chairman of the Section on Practice of Medicine to read a paper on Medical Treatment of Cholecystitis I accepted without considering the difficulties that I would have, in separating the medical and surgical handling of these cases, without appearing too optimistic along therapeutic lines.

In the treatment of cholecystitis and cholelithiasis there is an extreme ground fought over by the surgeon on the one hand, and the internist on the other, but in these cases, as in many of our medico-surgical diseases, there is a happy medium ground in which both internist and surgeon can meet in friendly accord, and the patient be saved much suffering and possible surgical operations by their intelligent handling by the internist.

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*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

We could quote right here by the pages opinions of leading authorities on this subject. Some of the greatest surgeons in the world urging against early operations, and believing that only one out of four of the cases sent to him for operatoin should be operated upon, where other surgeons and some medical clinicians claim that the disease should be recognized as a surgical one and advocate early surgery with equal intensity. In a very large proportion of cases chronic gall bladder disease tends to a gradual clinical cure. In other words, gallstones become latent, inflammation of the gall bladder subsides or disappears, and the "gallstone sufferer" becomes merely a "gallstone carrier." Hans Kehr estimates this proportion at 80 per cent. Goldammer makes the same estimate. Franz Frick has shown that, whereas autopsy records show a larger and larger prevalence of gallstones at increasing ages, clinical records show the greatest prevalence of gall bladder diseases between the ages of 25 and 50. In other words, as patients grow older their gall bladders give them less trouble.

To sum up the indications for medical treatment we will quote from Bettmann:

1. Simple catarrhal cholecystitis and cholangitis.
2. The early attacks of biliary colic, before the ability of medical treatment to render the stones latent has been thoroughly tested.
3. Cases of cholelithiasis in which the attacks are infrequent and not accompanied by obvious complication.
4. Cases of cholelithiasis with predominating gastric symptoms due to hyperchlorhydria and without marked local signs.
5. Cases with serious complications on the part of the kidneys, heart, or blood vessels which would render surgical interference dangerous.

The indications for operative treatment are:

1. Acute purulent cholecystitis threatening life.
2. Perforation of the gall bladder.
3. Gangrene of the gall bladder.
4. Chronic distention or thickening of the gall bladder. In the words of Quenu: "Hydrops calls for an operation, empyema demands it."
5. Persistent dyspeptic symptoms, especially when accompanied by physical signs of a diseases gall bladder.
6. Chronic obstruction of the common duct extending over a period of three months.
7. Chills and fever in the course of the disease with signs of enlargement of the liver, local tenderness, or jaundice.
8. The presence of symptoms which seriously interfere with the work of the individual or his ability to enjoy life. The occupation of the patient, his means, and his environment play a role in this decision.

In the consideration of the medical treatment of these cases it is essential that we understand the pathogenesis and etiology. Our advancement along the line of infectious agents in recent years has shown that the biliary tract is particularly susceptible to, and the frequent seat of, infection. The result of these infections varies with the virulence of the infectious agent or micro-organism and the individual resistance. The acute infections of the biliary pasages and of the gall bladder of virulent bacteria, produce such local symptoms and manifestations that the diagnosis is comparatively easy. In the opposite conditions, however, when the infection is more insidious in onset, and chronic in course, and the infectious micro-organism is of low virulence, these cases are not recognized and the lesions and symptoms so slight that faulty diagnoses are made, and the conditions resulting are overlooked, misunderstood, and misinterpreted. The major symptoms in these cases of course are the result of obstruction and inflammation of the biliary passages or gall bladder ducts. In the same infection, whether markedly virulent or less virulent, the same etiology will lead to cholangitis, cholecystitis and cholelithiasis, either singly or combined.

Of the infectious agents in these cases, of course the bacillus coli communis, and the typhoid bacillus are the most frequent, but we also find the staphylococci and streptococci, either alone or as mixed infections. We find many cases of biliary infections complicating pneumonia and influenza and in our present knowledge of these infectious agents we would consider the pneumococcus and the influenza bacillus as being the etiological agents. In addition some etiological importance attaches to the anaerobic bacilli which abound in the intestines.

For a clearer understanding of the methods of infection I quote the following from Kelly's article in Diseases of the Gall Bladder and Biliary Ducts in Osler's System.

"The Pathway of Infection. The pathway whereby the biliary tract may become infected are: (1) The diverticulum of Vater and the common bile duct; (2) the portal circulation; (3) the systemic circulation; (4) the lymphatic circulation; and (5) directly through the wall of the gall bladder or the biliary ducts from the peritoneum.'' These pathways of infections are only mentioned to illustrate how easy it is to get local infections from systemic disease, especially when we have such susceptibility as in the gall bladder and ducts. With few exceptions, every gall bladder disease begins as a medical case, and it is the recognition of the initial attack of cholecystitis that is the period for expert and rational medical therapy, but it is the unrecognized and neglected attacks of cholecystitis in every case that leads to the formation of gall stones. It doubtless takes months of catarrhal conditions of the gall bladder for the actual formation of stones. So active and persistent treatment is indicated for weeks or months after every attack of cholecystitis. Just how long we should persevere with medical treatment depends upon the conditions present in each case. No absolute rules can apply. So long as the patient is in good condition and free of fever and pain we can afford to temporize. Continuous loss of weight, regular though slight rise of temperature in the afternoons, or pronounced debility may be considered more imperative indications for operative interference. The waiting period may extend ordinarily from one to three months. To prolong medical treatment beyond this period is to subject the patient in some virulent cases to the danger of permanent damage to the liver structures, and increases the risk of the operation itself.

Rolleston advises persistent medical treatment even in the presence of recurrent attacks of fever and pain, but warns against allowing the patient to run down in health too far before resorting to an operation.

There can be no question that a very large number of cases of mild catarrhal cholecystitis run a rapid course to complete and permanent recovery under even indifferent treatment. That this is true of many moderately severe attacks I am led to believe by the careful observation of numerous cases over a long period of years. Even cases which are due to infection with the typhoid bacillus during or subsequent to an attack of typhoid fever usually end in complete recovery, and the numerous cases of so-called ''typhoid carriers'' who are in perfect health are witness to this fact. Even so aggressive a surgeon as Deaver says:

> ''Typhoid cholecystitis rarely calls for operation. The majority progress favorably. I have followed too many cases to a sure convalescence without operation to believe that all cases arising in or after typhoid fever should be operated on.''

The management of simple cholangitis and cholecystitis is much alike. Predisposing factors, to some extent, can be and have more active exercise, with the assistance of a medical gymnast if necessary he should have the diet restricted so as to avoid superalimentation; alcohol must be shunned, the eating of meats and fats decidedly limited, and the carbohydrates decreased. Sugar and sweets eliminated. He should limit himself to a little bread, buttermilk, fresh fish, perfectly ripened fruits, and very fresh vegetables, following in fact, the dietary advised in functional incompetence of the liver. Women after childbirth should take measures to prevent the too frequently remaining lax abdomen by proper abdominal exercises and supporting bandages, and should discard the practice of wearing the lower garments supported from the waist. Constipation must be overcome and the alimentary tract kept in the best possible condition. Alkaline and carbonated waters should be drunk freely and frequently. Tea, coffee, and chocolate are best omitted, substituting therefor the teas from aromatic herbs or hot lemonade.

By the Turkish bath or its substitutes the skin with benefit may be kept active, and the drainage of the bile-passages may be favored by a course at one of the mineral springs. Waters may be selected which are useful in stimulating the unstriped muscle-fibres of the biliary ducts, besides removing sources of irritation from the intestine. Some of these waters apparently have a specially favorable action upon the biliary apparatus. Such are several of the springs of Saratoga, those of Bedford, Las Vegas, various sulphur springs, and many others of this country, and abroad, the waters of Carlsbad, Homburg, Vichy, Contrexeville, Harrogate, are a few of a large list that might be recommended, besides some of our excellent local spas such as Dawson, French Lick, etc., and complete rest in bed.

In inflammatory affections of the liver, especially in cholecystitis and cholangitis, Reichmann recommends giving methylene-blue in 0.03 to 0.05 gram doses three times a day. He considers that the drug passes quickly through the organ and has a destructive action upon bacteria. In this connection it should be noted that the intermittent and imperfect elimination of methylene-blue in the urine is considered by some French observers as a sign of functional deficiency of the liver as it is known to be of the kidneys.

Hexamethylenamin (0.3 to 1 gm.—gr. v to gr. x1) is recommended in subacute cholecystitis because of its antiseptic effect; for the same purpose a combination of sodium salicylate and sodium benzoate (of each 0.6 gm.—gr. x.) may serve equally well and as an intestinal antiseptic it is to be preferred. When there is a complicating duodenitis, it is best to select bismuth salicylate. It should be given in a mixture, and acts best associated with an equal amount o fsalol (0.3 gm.—gr. 5) in some pleasant suspension.

In a typical case of acute cholecystitis, with fever, vomiting, constipation, severe pain, and tenderness in the region of the gall bladder, the following measures are advised. Place the patient in a full tub bath, very hot, irrigate the colon with hot normal saline solution, and follow this with a mixture of aspirin (1 gm.—gr. xl) bismuth subcarbonate (1 gm. —gr. xv) cherry laurel water (4c.c ʒj) added to a sufficient amount of water. Should this be vomited, and should the pain continue, give a hypodermic of codein phosphate and apply over the hypochondrium a large, hot compress, and frequently renew it. As soon as it may be tolerated, give a moderate dose of calomel, and follow this after a few hours with a full dose of magnesium sulphate, given as a saturated solution and ice cold. The bowel may be further emptied by using a large colonic irrigation. When the stomach is calmed sufficiently administer aspirin or magnesium salicylate with bismuth, repeatedly, as may be required to relieve the pain and soothe the biliary passages.

In a certain proportion of cases the cholangitis or cholethiasis is very acute. It is accompanied by chills, high temperature, leukocytosis, and great distress, often by severe pain. If the process is limited to the gall bladder, jaundice may be entirely absent. Under such circumstances the general treatment should include absolute rest, a hot bath followed by a light poultice, antipyretics, and saline purgatives. Of the antipyretic drugs, there is a choice, not always to be made without trial. Sodium salicylate, magnesium salicylate, aspirin in fifteen grain doses with sodii glycocholate gr. v. every four hours, antipyrin, and lactophenin compose a desirable list. Full doses are required for their action is not merely to reduce temperature; often they overcome the pain besides favoring the escape of bile. In those cases in which the symptoms do not quickly abate, drainage of the gall bladder is called for to save life. Such emergencies sometimes arise in the cholecystitis of typhoid and other infections. When cholecystitis has continued for a considerable time, whether or not accompanied by cholangitis, it is safe to infer that a gall-stone is present, and if the case is not relieved by medical treatment, it is usually because the gall bladder is seriously diseased, or else because the stone has been forced into and retained by the cystic or common ducts.

For many years recognizing the dangers of gall bladder involvement in typhoid fever, looking upon it as just as serious a pathology as the intestines, it has been my habit during the whole course of typhoid fever to administer five grains of salol and ten grains of urotropin every four hours. In this way in my private practice I have not seen a serious gall bladder involvement, either during the course of the disease or afterwards, except in one case in which the gall bladder ruptured the first week after the patient was put to bed.

I am so frequently asked what do I think of typhoid vaccines for their therapeutic effects, and my reply has lately been this. We recognize the fact of the absolute protective powers also that it is the infected typhoid gall bladders that make our "typhoid carriers" and that the typhoid vaccines relieves these cases and renders the carrier inoccuous, and that I believe in every case of typhoid fever the therapeutic doses of vaccine should be given. The typhoid infections may exist in the gall bladder for a great length of time, as has been shown in a number of cases, Hunner recording one case in which there was a typhoid cholecystitis eighteen years after the attack of typhoid fever. There are also authentic cases in which the typhoid organism has been found in cholecystitis without the patient ever having had typhoid fever. Blumenthal records a case in which he obtained a pure culture of typhoid bacilli from the gall bladder in a patient who had never had typhoid fever herself, but who had nursed her husband and one brother during an attack of typhoid fever some six or eight years previously.

So in the other most frequent type of cholecystitis and cholangitis infections, viz.: that of either pure colon bacillus infection, or where the colon bacillus is in conjunction with other bacteria I am a firm believer in the early administration and even frequent administration of appropriate vaccines. I think recently that I have gotten wonderful results in thes cases from the early administration of colon bacillus vaccines.

We know the positive results of these vaccines in pyelitis and pyelocystitis, and from these we can now reasonably expect the same marked and positive results in such infections of the gall bladder.

So in the infections from pneumonia and influenza these suitable vaccines should also be given with just as much expectance of positive results as in other cases.

SUMMARY.

To summarize: Cholangitis and cholecystitis are always medical cases in their incipiency, and for a reasonable length of time, except under emergency conditions as stated previously.

The remedies to be used in these cases are sodi glycocholate gr. v., salol grains 5, sodium benzoate grains 10, urotropin, or better, its citrate helmitol in 10 grain doses, aspirin, grains 15 (where pain is present) at other salicylates, alkaline waters, limited and restricted diet, rest in bed, and the administration of suitable and appropriate vaccines.

THE INDICATIONS FOR SURGERY IN GALL BLADDER DISEASE.*

By LOUIS FRANK, Louisville.

Primarily and esentially a consideration of the surgical indications in any disease includes a careful study of the differential diagnosis, and a diagnosis which will justify operative intervention presupposes the differentiation of that disease, by its symptomatology and physical findings, from other conditions which may present similar symptoms or have some of the clinical manifestations common to the lesion under consideration. This necessarily embraces a comprehension of the normal anatomy as well as the local and sequential pathology. Without a complete understanding of the topographical anatomy, due appreciation of the pathological changes occurring as a result of disease in any region, and a knowledge of the results of such pathology upon distant structures and physiological processes, operative measures for relief become purely empiric and surgeons would be mechanics pure and simple. Surgery, however, as well as general medicine, demands more than this of its devotees, so it is hoped I may be pardoned for interjecting herein material which, while germane to the topic, may not strictly speaking have ben included in contemplation of the title of this paper.

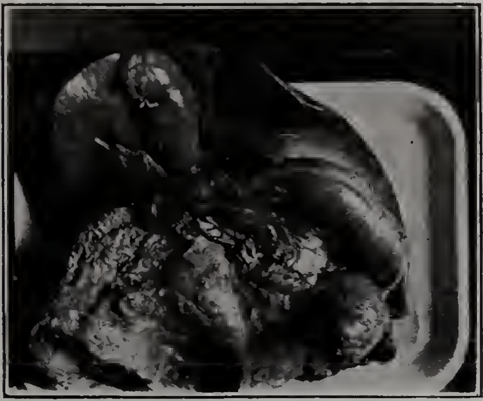

Fig. 1. Liver lifted up showing gall bladder and relations of stomach, pylorus, duodenum, pancreas and colon. (Original).

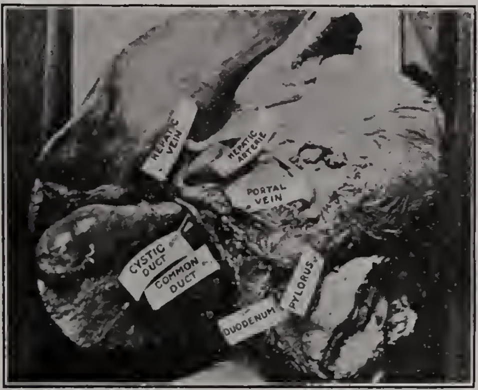

Fig. 2. Showing ducts and vessels in lesser omentum. Pylorus and duodenum turned down to show course of common duct. (Original).

First, let us consider the anatomy of the biliary system, which, as an outgrowth of the alimentary canal during early fetal life, includes a study of its blood supply, or nutrient circulation, and of its secretory circulation, namely the biliary excretory apparatus.

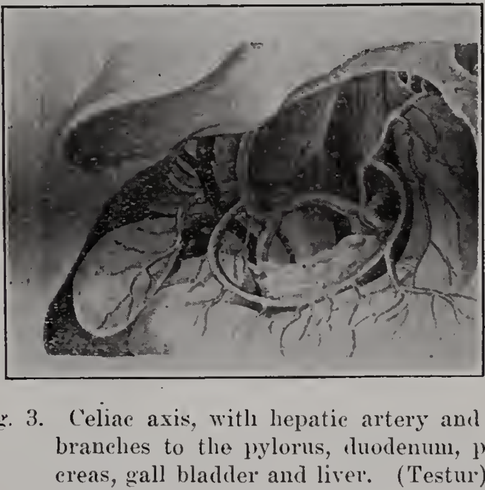

Fig. 3. Celiac axis, with hepatic artery and its branches to the pylorus, duodenum, pancreas, gall bladder and liver. (Testur).

There must always be borne in mind the existing relationship to neighboring organs, this may be not only by blood supply and intimacy on account of fetal derivatives and common excretory outlets, as with the pancreas, the liver, the stomach and duodenum, but also by anatomical location and contiguity as with the colon, omentum and kidney; otherwise one is unable to appreciate symptoms and to understand the insidiousness of the progress of pathology in this region; and this becomes of greater interest just here in order to qualify one to differentiate gall bladder disease from lesions of these contiguous organs, and thus arrive at a correct diagnosis which is the first requirement to any indication for surgery.

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*Read before the Kentucky State Medical Association at Bowling Green. September 2-4, 1913.

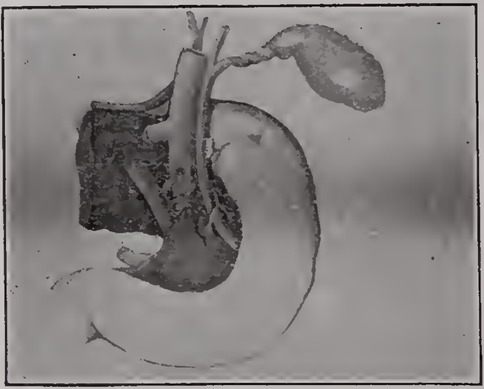

Fig. 4. Duodenum, pancreas head, common duct, portal vein and hepatic artery from behind, showing relations. (Testur).

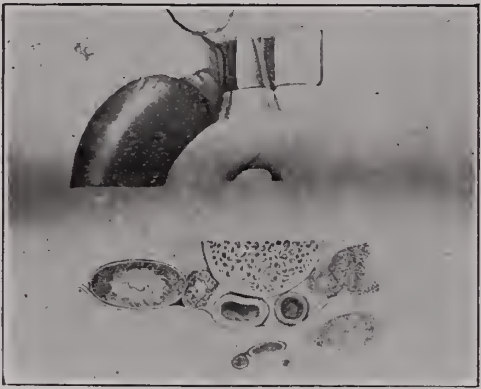

Fig. 5. Above the anterior leaf of lesser omentum is reflector showing relationship of structures. Common duct to left in illustration. Below, transverse section at same level showing all post-peritoneal structures at this point. (Testur).

The hepatic artery is the common source of blood supply to the gall bladder, the liver, the pancreas; it also supplies the duodenum, the pylorus and the pyloric end of the stomach. This in itself illustrates the community of interest of these organs. Their nerve supply is similarly closely related. This in a measure explains the close relationship and the consequent and concurrent pathology and symptomatology exhibited by these organs when diseases of certain types are present in any one of them, and this study of anatomical and physiological relationship enables one to understand how symptoms due to disease of the gall bladder may be referred especially to the stomach and duodenum, or *vice versa.*

It will be remembered that the hepatic artery, after leaving the celiac axis and before being distributed to the parenchyma of the liver, furnishes first a branch to the gastric pylorus, then a branch to the duodenum, which in turn sends a branch to the lower stomach border and to the pancreas, and that finally it sends a vessel to the gall bladder and cystic duct known as the cystic artery. The portal vein, which carries blood from the small intestine to the liver, is only mentioned to call attention to the fact that, with the hepatic artery and common duct of the liver, it lies in close relationship in the lesser omentum, and is thus liable to septic infection as

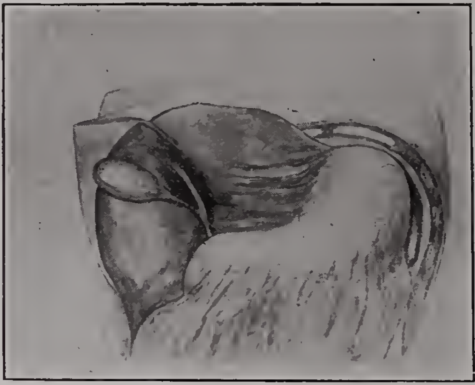

Fig. 6. Normal gall bladder, cystic, hepatic and common duct. Vein and artery not shown.

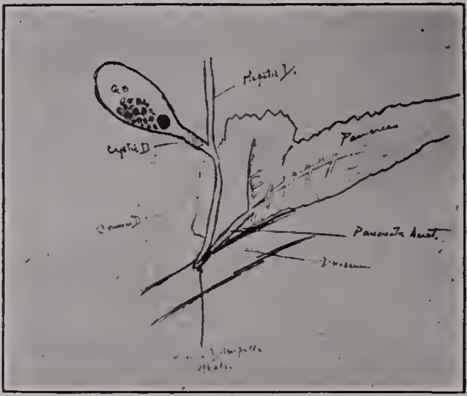

Fig. 7. Schematic. Stones only in gall bladder. Duodenum turned down and open to show duct passing through head of pancreas. Note papilla of Vater.

a result of bacterial migration through a ruptured or obstructed duct carrying polluted bile from a septic gall bladder. Its relationship is also of importance from an operative standpoint.

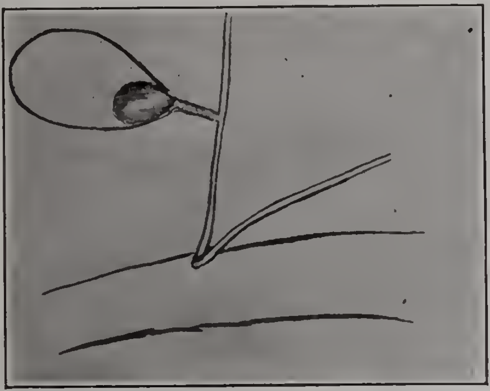

Fig 8. Schematic. Stone in gall bladder at beginning of cystic duct causing obstruction to duct and consequent distension of gall bladder.

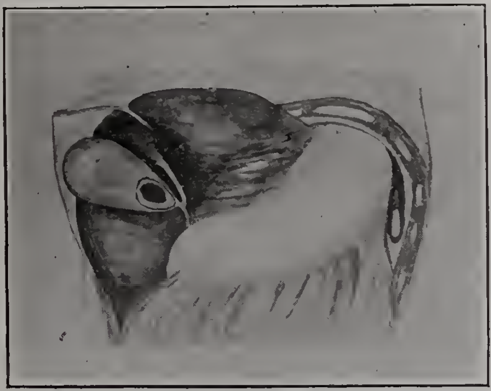

Fig 9. Same as Fig 8. Vessels not shown. Note size of ducts and large size of gall bladder in comparison with Fig 6.

As to the biliary ducts: From an anatomic and pathologic standpoint, as having a direct bearing upon the necessity for early relief of biliary disease, must be considered the relationship and anatomy of the biliary excretory apparatus. The ducts begin in the liver between the lobules, and joining one another gradually increase in size forming the hepatic duct. An offshoot of the hepatic duct, viz., the cystic duct, leads to the gall bladder. The lumen of the cystic duct after leaving the hepatic duct in the lesser omentum is so tortuous that it really becomes or resembles a valve. From the duct side it is easily traversed, but from the gall bladder side is difficult of exploration, tending to hold the contents within that viscus. That portion of the excretory duct between the cystic duct and the duodenum is known as the common duct, and its orifice is in the second portion of the duodenum at the summit of a papilla through which the pancreatic secretion is also ejected. This is known as the papilla of Vater, and the union of these ducts is in the ampulla, or enlargement of Vater. The pancreatic duct has no true value other than the duodenal wall, so that without some arrangement for bile overflow it becomes an easy matter for the secretion to be retro-injected into the pancreatic ducts which constitutes a most disastrous occurrence. An obstruction at this point also means the forcing of bile into the pancreas, and by consequent changes a condition is caused which is most frequently rapidly fa-

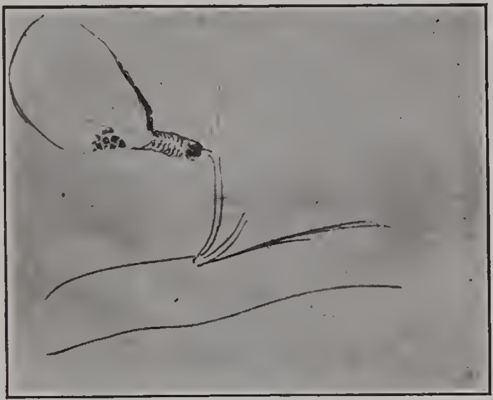

Fig. 10. Schematic. Obstructing stone in cystic duct with secondary dilation of duct and distended gall bladder. Common, hepatic and pancreatic ducts normal.

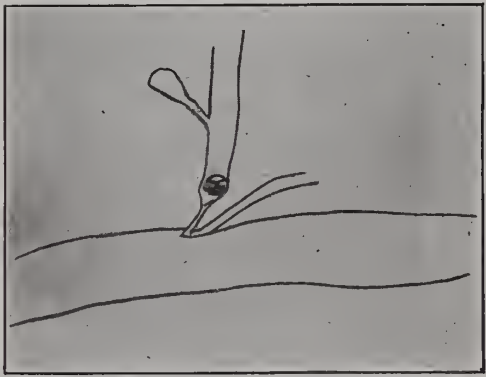

Fig. 11. Schematic. Old obstructing stone in common duct, small gall bladder, dilated common and hepatic ducts; cystic and pancreatic ducts unaffected.

tal to the individual. The gall bladder has little muscular supply, and except at its orifice at the beginning of the cystic duct, is poor in nerve supply.

What does all this signify? Most likely that the gall bladder is the receptacle for bile overflow, and from this reservoir, with its valve-like outlet, in which the bile is mixed with mucus secreted by the walls of the gall bladder, the superabundance of bile must find its way slowly. It becomes, then, the safety valve as it were, and is capable of considerable distension without pain within certain limits. Otherwise it is likely that the excretion of bile would be dangerous, and certainly the arrangement for its escape would in man be a poor one. As it is, infections long continued in the bile tract are exceedingly apt to ascend the pancreatic ducts giving rise to chronic pancreatitis, and as in sixty-five per cent. of individuals the head of the pancreas surrounds the common biliary duct, it means that as a result of swelling and compression obstructive symptoms (jaundice) may often appear even though no stones be present. It is well to bear this in mind in contemplated operations on the biliary tract, and to recognize the condition when present. Undoubtedly some of the supposed calculus obstructions where no stone is found at operation, but the jaundice subsides following gall bladder drainage, are dependent upon these factors.

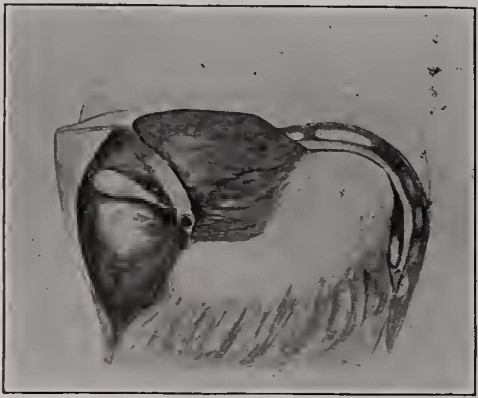

Fig 12. Common duct stone, small gall bladder, distended, dilated common duct.

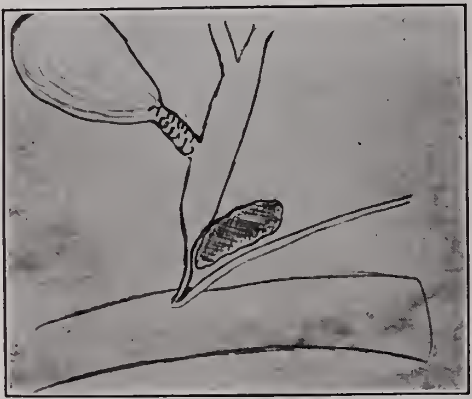

Fig. 13. Schematic. Common duct obstruction by growth. Note distended common, cystic and hepatic ducts and enlarged gall bladder. Compare with Fig No. 11. Jaundice permanent.

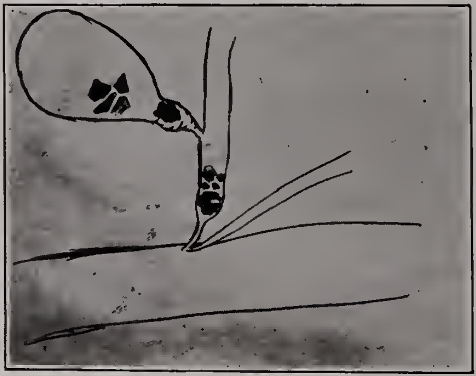

Fig. 14. Schematic. Calculus obstruction and cystic ducts. Entire biliary system distended. Jaundice intermitten. See Figs. 10, 11, 13.

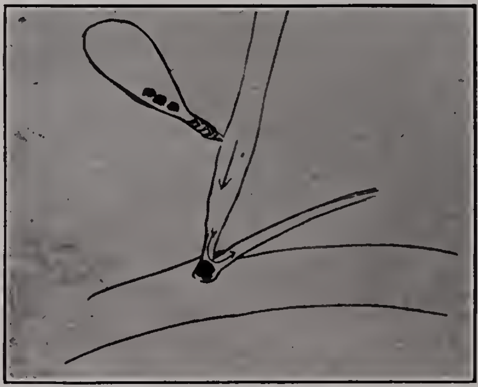

Fig. 15. Schematic. Stone in ampulla of Vater. Distended common duct and pancreatic duct. Bile follows arrows into pancreatic duct. Jaundice, acute hemorrhagic pancreatitis. Death usual in few days.

Having outlined the anatomy and the relationship of the gall bladder and its ducts, it would appear that the protean pathology resulting from infection within this viscus would be self-evident, and that the real and only indication for operation would be an accurate and dependable diagnosis. Such a condition of affairs would undoubtedly be ideal, and I am sure we will all agree that could operation be performed at the early period of infection all patients would make most rapid recoveries. The mortality would then be dependent not upon local nor distant pathology, but entirely upon the cleanliness of the surgeon, and would be absolutely and literally within his hands. Unfortunately, however, this ideal state of affairs does not exist.

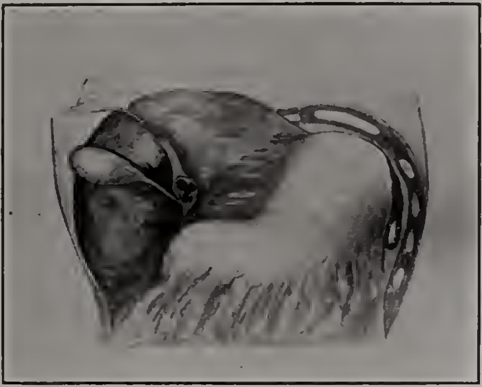

Fig. 16. Stones (3) in hepatic duct. These had evidently formed in gall bladder. No stones elsewhere in biliary tract. Hepatic duct distended.

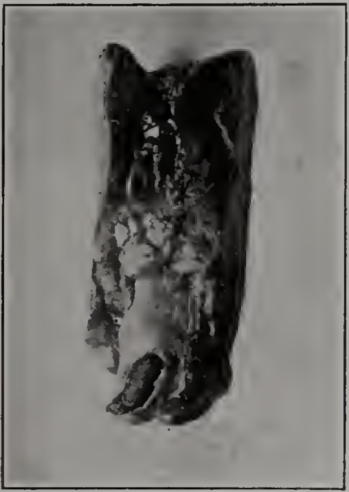

Fig 17. One large stone in gall bladder. Postmortem specimen.

Again, infective processes within the gall bladder are often so silent in their progress that extensive changes may take place before the host is induced by symptoms to seek advice. The end results of these infections may even not manifest themselves insistently enough to the individual, as witness the vast number of persons who carry apparently quiescent biliary calculi, and the long periods of stated latency of calculus disease in others. The terms "apparently quiescent" and "stated latency" are used because the essayist believes that there are actually and really definite indicative symptoms in all these cases at a probable early period of their development, the difficulty being that we and our patients are not alive to these early manifestations and are seeking evidence of later pathology or developments rather than those upon which these manifestations depend. Hence, it is that we wish to make diagnoses of gall stones forgetting their cause, or that we await jaundice as a positive proof of cal-

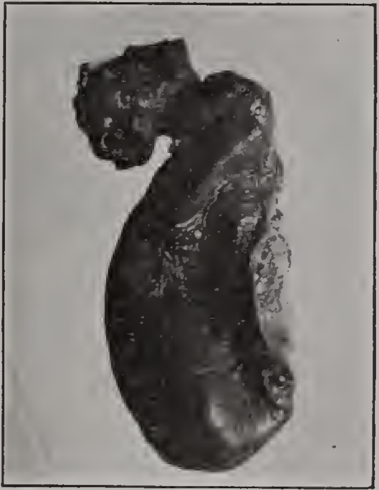

Fig. 18. Suppurating calculus gall bladder. Removed by cholecystectomy.

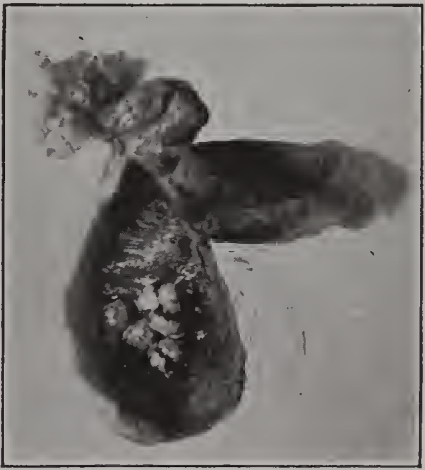

Fig. 19. Gall bladder removed by cholecystectomy. Opened after removal to show stones.

culus with obstruction, overlooking the probable march of events preceding stone formation which may be the actual cause of the obstructive symptoms. In other words, we have demanded terminal events and factors in gall bladder disease as the indications for surgical intervention, just as we have in many other surgical diseases. And herein lies not only the great injustice we are doing the study of medicine in failing to clearly elucidate symptomatology, but a factor of greater harm to our patients in that beneficial treatment is postponed at the expense of complete and rapid recovery and in favor of more extensive manipulation with consequent likelihood of increased mortality and further morbidity.

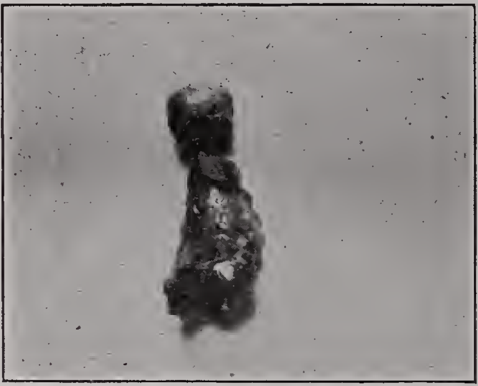

Fig 20. Cholecystectomy on account of packing of bladder and duct with stones. The mucosa and muscularis apparently gone, the gall bladder broke away at the duct like a pipe stem would break. The structures seemed calcareous.

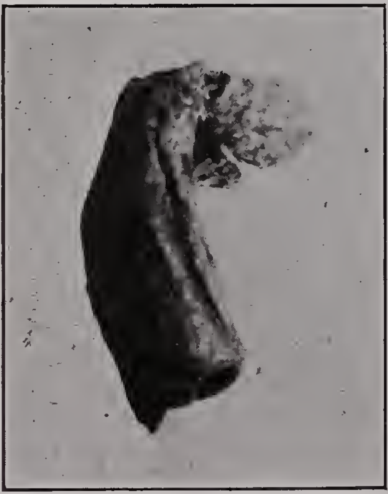

Fig. 21. Cholecystectomy on account of fistula between gall bladder and stomach. This patient had vomited gall stones.

We are rapidly learning and disseminating the knowledge of early recognition of these diseases, just as we are of cancer of the uterus and of the stomach. Just as we know that to cure cancer of the stomach we must recognize ulcer and not await tumor formation and obstructive symptoms, so also must we understand that infection of the bile tract is to be recognized before obstruction with widespread local and general infection ensues. We must separate the idea of stone as a necessary concomitant of gall bladder disease, and look upon calculi in their true light, i.e., as one of the end results of infection, and then we may hope to recognize the early surgical indications instead of awaiting the terminal stage of the infection. As indicated, however, cases fail of recognition because many people do not deem their symptoms of such import as to seek advice; hence we will always have a great variety of manifestations of the diverse results of these infections. These cases all begin as simple cholecystitis. They may present as such, or as suppurative cholecystitis, as gangrenous cholecystitis, as calculi either in the gall bladder or the cystic duct causing obstruction, as chronic pancreatitis, as abscesses, even as carcinoma of the gall bladder, its ducts, or the liver.

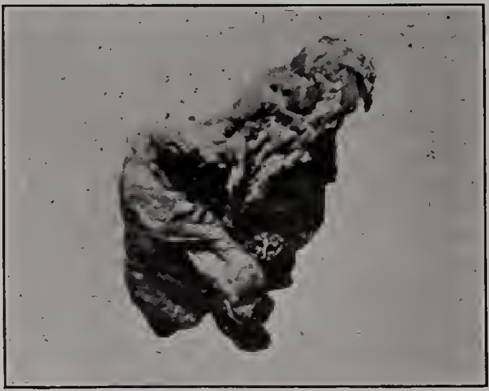

Fig. 21. Cholecystectomy on account of fistula between gall bladder and duodenum. No stones found in gall bladder. Stones were passed by bowel.

With a knowledge of such possibilities there should be little doubt as to the definite and positive indications for surgical intervention in gall bladder, just as soon as a diagnosis is made. It should be remembered, however, that here is a certain period in the presence of certain symptoms and pathology when operative relief may be undertaken at the risk of the very highest mortality, and during this period of tremendous operative risk, delay until a time more propitious for recovery is advisable. Of this inopportune period we shall later have more to say.

First, let us inquire as to the factors which go to make an actual surgical indication in the field of surgery under consideration and ask these questions:

(1) Is the disease susceptible of cure (not amelioration of symptoms) by medical treatment?

(2) Is the disease susceptible of cure by surgical means at the hands of a properly qualified surgeon?

(3) Will there be a resultant morbidity from the operation, or will the patient suffer as greatly or less from the effects of the operation as from the disease?

(4) Is the mortality from operation such as to offset the suffering, inconvenience or danger caused by the disease, and is the risk from operation such as cannot be overcome?

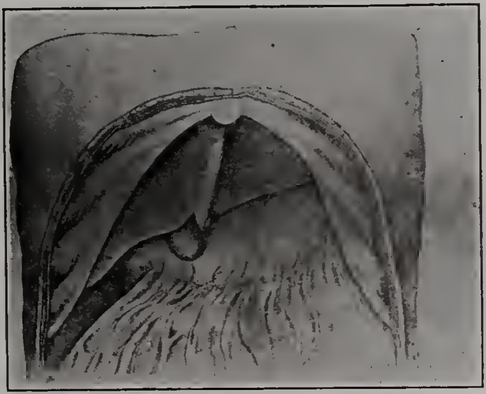

Fig. 22. Gall bladder, stomach fistula, no stones present at operation. Chronically ill. Gall bladder preserved.

The first, third and fourth queries being answered NO, and the second, YES, we must assure ourselves of the possibility of making a diagnosis of sufficient accuracy to justify the application of such indications to the patient. In the diagnosis of gall bladder disease there are numerous pathological conditions to be differentiated, and these must be eliminated if one is not to court discomfiture or at times disaster. Among these may be mentioned appendicitis, often an associated lesion in gall bladder disease, and possibly at times the atrium of infection is through the choledochus tract though more often the converse is true. Calculus disease of the right kidney and ureter, also gastric and duodenal ulcer, have been mistaken for gall bladder lesions. Pancreatitis is frequently diagnosed gall stones, though this error is readily understood on account of the location of the primary and causitive pathology in the biliary tract; and the mistake is not of great practical consequence in view of the necessity for gall bladder drainage to effect a cure. Symptoms due to prolapse of the stomach and colon may not only be misinterpreted, but may actually be the etiological factor in causing statsis of the gall bladder contents and subsequent calculus formation. Be that as it may, gall bladder disease is usually not difficult of recognition in the earlier stages if one attaches the proper significance to the primary symptom complex. As already stated, however, the general ten-

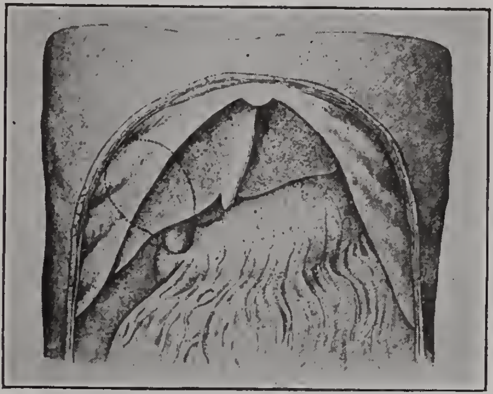

Fig. 23. Duodeno-cholecystofistula with large abscess, stones in abscess. Gall bladder saved, fistula in duodenum closed.

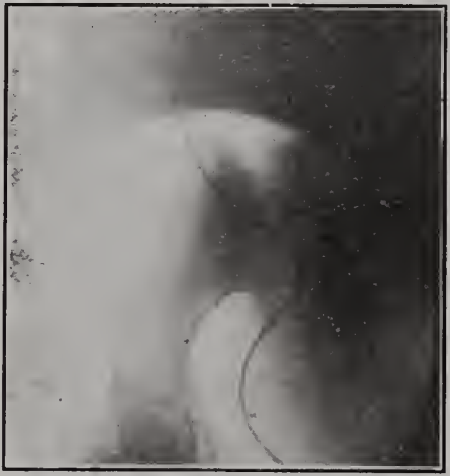

Fig. 28. Calculus in right ureter. Impregnated catheter passed to be sure the shadow is of stone in ureter. Recovery after washing out calculus. This case was sent in with a diagnosis of gall stones. Kidney colic being mistaken for renal colic.

dency is to await some terminal manifestation of the disease before making a diagnosis.

The determining factor in biliary disease is infection. Bacteria in the gall bladder or its ducts with delay to the outflow of bile means ultimate inflammation and infection, and one of the end results may be biliary calculus. The recognition of the pre-calculus stage is by no means impossible but quite desirable, and our friends who so urgently insist upon medicinal treatment for calculus disease might with far more reason and hope for relief turn their attention to a study of this stage of the infection. But does medicinal treatment relieve even at this time? Possibly in the absence of empyema, interstitial infection or localized peritonitis, the early administration of urotropin may be beneficial but treatment by olive oil and similar remedies in the presence of pathologic developments should be condemned. That medical treatment has no place in gall bladder disease is not my contention, on the contrary I am firm in the belief that all cases should be treated medicinally; but this treatment should be along the lines of preventing widespread changes, overcoming distant and certain sequences of prolonged absorption of septic material, of maintaining the resistance and general health of the patient before operation with special reference to the heart and kidneys, and of upbuilding him after removal of the pathology. That any form of medical treatment ever cured gall stones by dissolution of the concrement, by causing absorption of peritoneal adhesions, by healing biliary fistulae, by removing strictures of the cystic duct, or causing subsidence of a pancreatitis, or preventing carcinoma formation, no one any longer believes. These ideas have been so positively disproven that one blushes to mention them.

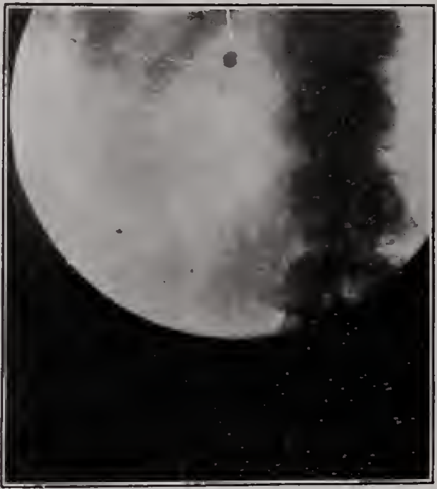

Fig. 29. Renal calculus. Treated among other things for gall stones and urged to have operation for gall bladder drainage. Correct diagnosis by X-ray and cystoscope. Calculus removed by pyelotomy. No gall stones.

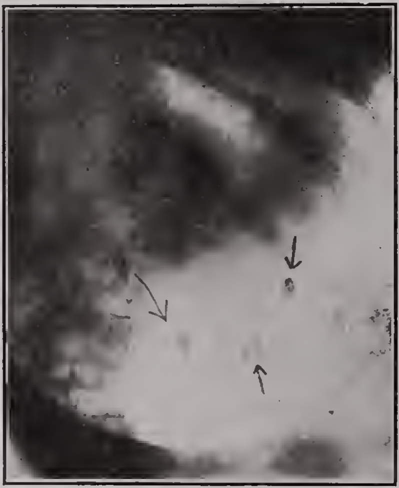

Fig. 30. Multiple calculi left kidney, diagnosed gall stones, right-sided pyelo-nephritis the probable cause of diagnostic error. Diagnosis of calculus confirmed by cystoscopy and X-ray. No gall stones.

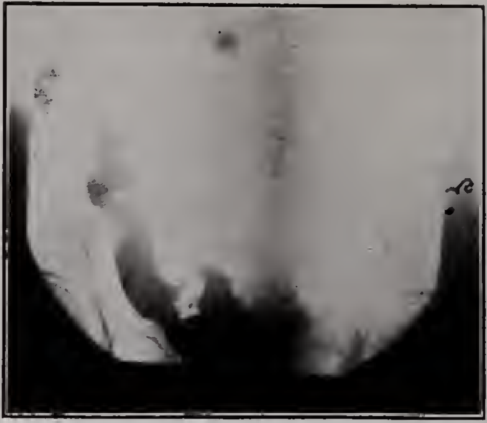

Fig. 31. Stasis in small gut due to chronic appendicitis pain due to obstruction, with the digestive symptoms led to diagnosis of gall stones and X-ray showed true condition. No gall stones at operation.

If it is so evident, then, that there is no hope for relief from medical treatment, is there in surgery sufficient promise of cure without further morbidity and at a risk small enough to enable us to honestly advise operation for our patients? Undoubtedly yes, and the earlier the operation the more certain the promise of cure and just so much less the danger. In the early uncomplicated cases the mortality is practically nil. That innocent gall stones or innocent infected gall bladders ever exist I cannot agree, being in accord with Mayo on this point. I believe that every gall stone had best be removed from the patient's anatomy. We have previously called attention to this fact, and knowing the diverse pathology so apt to ensue from the presence of stones in the gall bladder, we cannot agree that they are at any time or under any circumstances innocent.

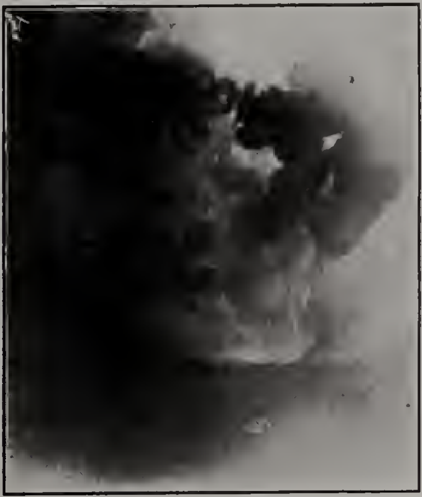

Fig. 32. Intestinal stasis with digestive disturbance diagnosed gall stone. X-ray showed above condition. At operation no gall stones. Stasis and obstruction due to inflammed appendix. Wound about the ileum at point of constriction in picture.

The diagnosis of all stones, even when uncomplicated by other pathology, becomes an urgent indication for their removal. There are conditions of the gall bladder, however, in which surgery is just as urgently indicated, even though stones be not present, e.g., in those cases where the patient suffers from pain, slight tenderness, gastralgia, so-called dyspepsia, or gastric neuroses, etc., without elevation of temperature, without acceleration of pulse, without any history of definite colic, there being likely present an infected gall bladder of mild degree. In this stage of the disease the danger is very slight, and permanent cure assured.

The gall bladder in such cases may present any one of several types: One is the so-called strawberry variety which MacCarty has so beautifully described, where the mucous papillæ of the gall bladder are prominent and the entire mucosa presents the color and appearance of a strawberry. The gall bladder may be filled with bile comparatively clear, but largely mixed with mucus showing increased activity of the mucosa, The viscus is never able to completely empty itself, therefore readily becoming the site of calculus formation. In another type belonging in this group, in which operation is indicated, there may be no distension, no thickening of the gall bladder walls, but they appear pale, the contents consist of a large percentage of mucus. Again, there may be an overdistended gall bladder, the contents being dark and tarry, more or less mixed with mucous, occasionally containing crystals of cholesterin and bile coloring matter discernible to the naked eye, showing partial obstruction from the nature and tenacity of the contents.

Either of these types may readily become converted into empyema, in which the viscus becomes filled with bile-stained pus or pus mixed with mucus. The classical early symptoms of chill and exquisite pain are frequently absent as is also the early increase of leucocytes, the latter being explained by the absence of lymphatic glands in the gall bladder walls. If one is not particularly observant, suppuration will not be suspected and the acute infectious nature of the condition be not recognized until localized peritonitis supervene. This type of cases should be subjected to early and prolonged drainage. On account of the poor blood supply, if early operation be not performed gangrene of the fundus of the gall bladder is apt to ensue, and in fact may take place before the patient presents marked symptoms of the suppurative process.

At operation cholecystectomy may seem to be required but in many of them the fundus of the gall bladder may be susceptible of resection, preserving a goodly portion of the organ for future function.

As previously indicated, in the progressive development after gall bladder infection there occurs the formation of calculi, which may occupy either the gall bladder, the cystic duct, or the common duct; or, a stone having formed in the gall bladder may pass backward into the hepatic duct, thus becoming an hepatic calculus. I am in accord with those who believe that the primary formation of calculi in the hepatic ducts is an exceedingly rare occurrence, that their place of formation is the gall bladder. In the presence of calculi there should be no doubt as to the indication for surgical intervention, and the earlier the operation is undertaken the lower will be the mortality, and necessarily the easier the operation and the shorter the convalescence. Further, the presence of calculi in the gall bladder is a constant menace to the integrity of this viscus for other reasons than infection. There is always danger of obstruction with secondary empyema, gangrene, and the formation of fistulæ between the gall bladder and adjacent organs. In cases where operation had been refused, we have later been compelled to do emergency work because of rupture with projection of calculi into the abdominal cavity, also to close fistulæ between the stomach and gall bladder. In one instance after operation had been refused, gall stones were vomited from the stomach. At subsequent operation the route of escape into the stomach was shown by the existence of perforation into that organ.

The indication in the presence of stone in the gall bladder is practically always a cholecystostomy, and rarely will cholecystectomy be required; but in the presence of friable calculi where it is feared debris may be left behind, or if the disease has existed for so long that calculi have become embedded in the mucosa of the gall bladder, or there is an irremediable obstruction of the cystic duct, or calculus deposits in the mucosa of the gall bladder, then unquestionably cholecystectomy should be the operation of choice. With obstruction from stone in the cystic duct there is usually a tremendous distension of the gall bladder, and as a rule the indication is to incise the cystic duct, and after removing the obstructing calculus drain the gall bladder. If obstruction has existed sufficiently long to cause an erosion of the duct walls, removal of the gall bladder may be considered. I believe however, it is better to leave the gall bladder unless there is some other indication for its removal, as in my experience notwithstanding the existence of a stricture for a short time, the pressure of the contents of the overdistended gall bladder has usually been sufficient to in time overcome the obstruction. There is never any indication for actual or attempted removal of stone from either the cystic or the common duct by crushing, even after the duct has been incised. It is almost certain that all the fragments cannot be removed, and calculi will surely re-form. It is preposterous to talk of removal *via* the gall bladder of common duct calculi which have or have not been crushed, either by a scoop or otherwise.

The further indications for cholecystectomy are extensive adhesions about the gall bladder of such density and character that the viscus may be irreparably injured in separating them, or recurrence is almost certain. Again, in beginning carcinoma from long existing calculus disease, or with a tremendously thickened gall bladder not capable of distension which can be of no further use, cholecystectomy should undoubtedly be performed.

A few words in regard to the proper method of draining the gall bladder: This should be accomplished by a tube but without fixing the gall bladder to the abdominal wall, except in the presence of an empyema where it might be well to stitch the viscus to the peritoneum. This latter procedure is advised and done because of the fear that organisms retained within the gall bladder walls may be lighted into future activity, with recrudescence or recurrence of the empyema or suppuration even though the fistula may have closed; and, if we have not exercised this precaution there is likelihood of rupture of the gall bladder into the free abdominal cavity, or prolonged illness with much suffering until the abscess points at the previously existing external opening.

We now come to a consideration of the indications for operation where one or more calculi have traversed the cystic duct and become lodged in the common duct. In this group are cases deserving of the most careful study, and needless to say they are among the most dangerous. It is in this group that mature surgical judgment is absolutely necessary to avoid a tremendously high mortality. The question of differential diagnosis also frequently arises, particularly in the absence of a history of distinct attacks of colic or other indications of pre-existing gall bladder disease. Even in the presence of these symptoms, one must differentiate from obstruction due to infection of the head of the pancreas with consequent pressure upon the common duct, or pressure from enlarged and chronically infected lymphatic glands in this region. One also must differentiate from carcinoma, which may be a sequel to calculus diseases or concurrent with it.

In the obstruction due to calculus the jaundice is intermittent, whereas in obstruction due to carcinoma, infection of the pancreas, or pressure from infected and enlarged lymphatic glands, the jaundice is constant without remission or exacerbation, and there soon develops a tumor due to the tremendously enlarged gall bladder. Also in calculus obstruction there are chills followed by elevation of temperature on account of the cholangitis which is always coexistent. In other words, silent jaundice without chills, without elevation of temperature, and unaccompanied by pain, is usually due to pressure on the ducts from without, be it from carcinoma or some other cause. The surgical indications, however, are here just as clear. In the presence of chronic pancreatitis or enlarged and infected lymphatic glands, prolonged gall bladder drainage will usually afford relief. If the jaundice is due to carcinoma, while a cure cannot be expected still cholecystenterostomy preferably with the duodenum, will not only relieve the jaundice but dissipate the symptoms due to cholemia, and make the patient much more comfortable in every way.

In the presence of profound jaundice, if acute cholangitis be present as shown by rigors and temperature rise, operation should not be undertaken. During these acute exacerbations medical supervision in consultation with the surgeon is desirable. The effect of cholemic poisoning plus septic infection upon the heart muscle and the tubular structure of the kidney is most harmful. The indications in this actively septic and toxic stage is to withhold surgical intervention temporarily. Operation undertaken at this time is almost sure to result most disasterously. The practice among surgeons of large experience and mature judgment is to defer operation until the recession of this acute wave of infection. These patients all present exacerbations in jaundice. The calculus acts as a ball-valve, as the late Fenger so beautifully described and when a certain point in the duct distension is reached the calculus rises, obstruction is relieved, the bile flows out carrying with it the infectious material in the ducts, the chills cease, the temperature falls and the jaundice becomes less marked. This period of quiescence is variable but it is during this lull that the wise surgeon makes his attack recognizing that now is the time most propitious of success of his efforts. Even at this most favorable time these cases will present a high operative mortality in comparison to the operations for calculus disease in other portions of the biliary tract, varying in the best hands from five to fifteen or twenty per cent. The danger in these cases is from several sources, first, as in all gall bladder surgery, comes that from infection and these are of violent character and our infection is in the upper abdominal cavity—which is least resistant to insult. If there is any operation in which the field must be most carefully isolated to prevent escape of infectious material, and every point in the technique and operative step tend to prevent soiling of the cavity from escape of the gall bladder or duct contents, and in which ample drainage must be provided, it is in the surgery of acute infections of the biliary tract.

Second: Dangers of anesthesia. These are chiefly to the heart and kidneys and the selection of the anesthetic of least risk becomes of paramount importance. The choice of anesthesia and anesthetist ranks not even second to the operation itself. After almost two years experience with the anoci method of anesthesia of Crile we would urge the method as the very best not only in the cases under discussion but in all surgical work where nitrous oxid gas can be used. The expense to the patient is a trifle greater but as patients have repeatedly said to me; "What is a few dollars in comparison to the greater safety to say nothing of the after comfort and absence of post-operative nausea and its concommitants."

To use the method is to make safe operative risks of many patients to whom otherwise we must refuse to advise surgery on account of the shock or anesthetic dangers. The absence of post-operative shock, of subsequent interference with kidney function, of gastric and intestinal disturbance, of liver changes, etc., so frequent after ether or chloroform make the contrast so great that comparisons need not be made. The patients, friends, physician and surgeon are so impressed by the difference that to him who witnesses or uses the method with understanding of the principles involved the appeal to his judgment is irresistable.

Epistaxis.—Treatment.—With patient sitting in chair, stand behind him, place index finger of both hands beneath body of lower jaw on each side, with thumbs resting behind angles, and make gentle traction upward upon head, and simultaneously extend it backward as far as patient can comfortably bear. Sets up artificial anemia in nose and head in general, causing epistaxis to cease. Desist in one or two minutes, or consciousness may be partly or wholly lost.—Ritschl.

SURGERY OF THE GALL BLADDER.*

By JOHN D. JACKSON, Danville.

Up to the beginning of this century, gall bladder surgery was not so frequent. Mayo Robson and the Mayos, with their number of operations and various procedures, have established facts to work on. Many medical practitioners believe gall bladder surgery justifiable only in such conditions as profound jaundice, perforation or gangrene of the gall bladder, acute cholecystitis, etc.

Though considering the large number of cases of dyspepsia, indigestion, catarrh of the liver and stomach, cramps which have been shown to be due to gall stones that numbers of people go through life with chronic inflammation of the gall bladder and appendix, we cannot doubt the history of gall bladder disease parallels that of disease of the appendix, and the recognition of the part played by the appendix in the production of symptoms referable to the gastro-intestinal tract was long delayed, so, too, with the gall bladder.

Before the pioneer work of Fitz and McBurney on appendicitis was published, it was the rule to wait for abscess before operating, to-day many cases of gall bladder disease are not treated surgically until serious complications are present. The surgical treatment of gall bladder disease in an early stage is not difficult and results are good. Practically speaking these early cases only include gall stones in the gall bladder and cholecystitis, but the late stages and the complications include gangrene, perforation, hydrops, empyema, carcinoma of the gall bladder, obstruction to the cystic and other bile ducts, pancreatitis and adhesions.

Gall bladder disease will likely become less prevalent in the future, for the early removal of diseased appendices, the prevention of infections in obstetrical work, the practical stamping out of typhoid fever, etc., is bound to lessen the causes of gall bladder disease.

Gall bladder or gall duct disease is epigastric in origin and radiates upwards. With a stone in the cystic duct the pain may radiate to the right of the lower dorsal vertebrae, and since a block in the cystic duct does not cause jaundice, the colic may be wrongly considered renal.

When the pain is epigastric it may occasionally radiate to the legs or the left arm. Occasionally in acute cholecystitis, the pain may shoot down into the right iliac fossa and become definitely localized there.

In general enteroptosis where there is a descent and rotation of the liver carrying with it the gall bladder, the common bile duct remains behind more or less fixed . Consequently a kinking of the cystic common duct junction may result and thus gall stone colic like attacks occur, such a hindrance of bile outflow in turn leads to calculi formation so that in patients of this build calculi are common.

The method of approach to the gall bladder should be for the freest exposure, of the gall bladder, and the surrounding structures, with the least permanent damage to the abdominal wall. In cholecystitis which only require drainage a short vertical incision or an oblique is all that is necessary. A similar incision can also be applied to gall stones which are discovered in the course of other abdominal operations and when palpation reveals no complications.

The Kocher incision, through the right rectus muscle and parallel to the margin of ribs, gives a good exposure, but it is often difficult to avoid injury to the lower intercostal nerves, which supply the upper part of the rectus muscle. An inversion through the outer portion of the right rectus muscle, as described by Mayo Robson and Bevan, is a good one, as it permits the removal of the appendix, which is often concomitantly diseased.

In thick individuals with fat abdominal walls, access to the deeper structures is difficult, and the incision is longer than with thin persons.

If one flexes the pelvis, doubling the patient up, he will find he can get an excellent exposure and with less difficulty in holding the intestines back and consequently with less trauma than by using the bolster. Adhesions are generally present, whether or not to remove depends upon the individual case. They may serve a useful purpose, in limiting infection, as in acute cholecystitis or abscess.

In many acute affections of the gall bladder, with the patient in a serious condition, the indication is merely to open it and drain. The desire to remove all the pathological conditions at one operation should not make us lose sight of the patient's recovery. It is often best to do them in one or two stages; where conditions permit a thorough palpation of the cystic, hepatic, and common ducts, the pancreas and appendix should be made before removing the gall bladder.

The question of cholecystotomy or cholecystectomy is one sure to arise in the mind of the surgeon during many operations on the gall bladder, but there are conditions to be taken in before concluding. If there is obstruction of the common duct, and the cystic duct is patent, the gall bladder should not be removed, it may later be needed for a cholecystenterostomy. In the presence of pancreatitis, it is also well to keep the gall bladder for drainage. One of the most important things to do in gall bladder work is to institute drainage of the biliary tract, for infection is the etiologic factor in nearly all diseases of the gall bladder, and drainage from the gall bladder is more efficient and safer than drainage from the cystic duct.

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*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

A non-functional gall bladder should, if possible, be removed, for it is occasionally the seat of a beginning cancer, or apt to give rise to a mucus fistula.

A thickened gall-bladder, or one in which the walls have been eroded by gall stones, is also better out than in, for similar reasons. It not infrequently happens, however, that a cystic duct that seems entirely closed will open up after drainage of the gall bladder through the subsidence of inflammatory swelling.

When the gall bladder is of normal thickness, and the ducts clear, it is better to save it. The risk of cancer developing in such a gall bladder is small, while the risk of a later obstruction of the common duct from an overloaded or new formed stone or from cicatricial contraction is much greater. Cancer or other tumors of the gall bladder, if found before hopeless involvement of neighboring structures, call for radical excision. Cancer is present in about 3 per cent of gall bladder involvements.

Where a cholecystectomy is indicated for benign conditions and the presence of adhesions would render it a difficult or dangerous operation, it is well to remember excision of the mucous membrane down to the cystic duct as first advocated by W. J. Mayo, will give the same result and be easier to do, which also offers a safer drainage than cholecystectomy. In draining the gall bladder, the tube should be brought out in such a position that the fundus of the gall bladder will ultimately be high up, in order to assist natural drainage when the patient is up.

The mortality of cholecystotomy does not exceed 1 per cent, while in cholecystectomy it is slightly higher.

Albuminuria.—Treatment.—Prophylactic doses of Roux's antidiphtheritic serum in 128 cases of scarlet fever found to lower greatly frequency of albuminuria in these cases. Anaphylactic effects extremely rare with this serum. In all cases of albuminuria originating from throat inflammation, as well as in albuminuria in general where other measures have proven ineffective, the serum should be given hypodenmically in doses of 10 c.c. (2 1-2 drams) every three or four days.—Galliot.

AFTER TREATMENT AND END RESULTS IN GALL BLADDER SURGERY.*

By F. H. Montgomery, Danville.

AFTER TREATMENT.

Immediately after an operation upon the biliary passages the patient is put to bed, propped up, if desired, upon a few pillows. Water or crushed ice in small quantities is allowed from the beginning. Opiates are withheld as much as possible, though their administration may become necessary to relieve pain or produce sleep. When they do become necessary it is best to give a sufficient dose of morphia hypodermatically to produce the desired results. Liquid nourishment may, in favorable cases, be begun on the second or third day and a plain diet given by the end of the week. Gall bladder disease is caused by infection which enters either by way of the portal circulation or ascend from the duodenum. This infection causes primarily the various inflammatory conditions of the gall bladder and secondarily the formation therein of gall stones. Gall stones are in all probability always formed in the gall bladder, and in most instances the nuclei of all the stones present are formed at one and the same time. If these stones remain in the gall bladder and do not interfere with the free drainage of the bile into the duodenum, they will produce few, if any symptoms, but the moment they do interfere with this drainage they will produce symptoms of gall bladder disease. These symptoms will vary according to the degree of interference, whether partial or complete, and also according to the location, whether in the neck of the gall bladder, in the cystic or the common duct. Hence we see that gall bladder surgery (which of necessity must include gall duct surgery) is made necessary by infection, which infection either by swelling of the biliary passages or by gall stone formation, checks the normal flow of bile into the intestines. And it is as much the duty of the surgeon in the after treatment of gall bladder cases to see that free drainage of bile is maintained, at first externally and finally through the bile ducts into the duodenum, as it is his duty at the operation to see that all obstruction is removed. If the operative technique is well carried out good drainage will be a natural sequence, and attention will be directed to securing a free secretion of bile by the liver. Proctoclysis by the Murphy drop method is here the main dependence.

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*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

The fluids absorbed by the intestines enter the liver by way of the portal circulation and usually produce a rapid and very marked increase in the secretion of bile. In case the colon becomes irritated and rejects the solution it may, in cholecystostomy, be given through the cystic drainage tube as recommended by Dr. L. L. McArthur. However, before attempting to use this method one must be absolutely certain of the patency of the cystic and common ducts. Dr. McArthur has given the saline solution through an ureteral catheter which has been passed through the cystic drainage tube, the cystic duct and the common duct into the duodenum. Absorption under such circumstances should be much more rapid than when proctoclysis is used.

Acute dilatation of the stomach is one of the most serious complications of abdominal surgery, and is most likely to occur following operations upon the biliary structures. Its prevention is one of the most important duties in connection with the after treatment of these cases. Early and repeated gastric lavage will unquestionably prevent its occurrence. Lavage may be begun before the patient leaves the operating table, and it is far better to err in washing out the stomach too frequently than to allow even a small amount of retention.

The drainage tubes should be removed as soon as the temperature becomes normal and the retention stitches loosen. This will usually be between the fourth and tenth day after operation. The drains outside the gall bladder should be removed first, then the cystic drains, and finally the catheter drain from the common duct. The stitches are left as long as they serve to hold the wound together. Usually they will be out by the seventh to the tenth day. After the drains and stitches are both out the wound should be supported by adhesive straps. Postoperative hernia is supposed to be infrequent in the upper abdomen, but with the present tendency to long incisions in gall bladder work, it is well to use every means to prevent its occurrence.

END RESULTS.

The end results in gall bladder surgery can be classified under two heads. 1st, Operative Mortality. 2nd. Functional End Results.

Operative Mortality. The operative mortality of cholecystostomy for simple gallstone disease is smaller than that of any other operation upon the biliary passages. In the hands of skilled surgeons it will approximate 1-3 of 1 per cent. That of cholecystectomy is higher, about 2-3 of 1 per cent. Uncomplicated cases of choledochotomy show a mortality of about 3 per cent. When cholangitis and jaundice are present choledochotomy shows a much higher mortality, ranging from 10 per cent in the milder to 25 per cent. in the severe cases with obstructive jaundice.

FUNCTIONAL END RESULTS.

The liver, gall bladder and bile ducts belong to the secretory portion of the digestive canal that is derived embryologically from the primitive foregut, and the result of disease of these structures is interference with the normal supply of bile to the duodenum, and a consequent and serious interference with the preparation of the food for absorption which takes place in the next lower section of the intestines. There is such an intimate relationship, both functional and anatomic, between the biliary structures and the pancreas that disease of the one is very prone to produce, secondarily, disease of the other. Probably there are no more important anatomical facts in connection with surgery of the bile passages than the conjunction of the common bile duct with the pancreatic duct of Wirsung just prior to their opening into the duodenum, and the passage of the common bile duct, in 62 per cent. of cases, through the head of the pancreas.

Functionally it has been proven that the passage of normal bile into the duodenum has a stimulating effect upon both the secretory activities of the pancreas and the digestive activities of the pancreatic ferments, especially the fat emulsfying ferment, after they enter the intestines. Not only this but the bile is partially an excretion, intended to carry off certain poisonous substances which result from the death of red blood cells within the body. The reabsorption of these substances slowly but surely produces evidence of serious systemic poisoning. Hence the functional end results will depend upon how nearly the surgeon is able to restore normal drainage of bile into the intestines, as the moment this is fully accomplished the symptoms of indigestion and jaundice will begin to disappear.

The results of cholecystostomy as regards restoration of function are most satisfactory. This is the operation of choice in cases that are early and favorable, and in these simple cases complete recovery occurs in at least 95 per cent. of cases.

Cholecystectomy is the operation done at a more advanced stage of gall bladder disease, and its selection indicates that certain more serious conditions are present; such as gangrene or new growths of the bladder wall or contracted and inflammed gall bladders with much thickened walls; or stones tightly impacted in the neck of the gall bladder or in the cystic duct. The functional end results in these cases are good, but are dependent upon the healthy condition of the remainder of the biliary structures.

Choledochotomy is the operation done in the most serious stage of disease of the biliary passages. It usually involves a cholecystostomy in addition to the opening and drainage of the common duct. Excluding the operative mortality which has already been considered, the end results following thorough operation are most satisfactory. These patients often are the victims of the most serious of complications such as cholangitis and chronic pancreatitis. The liver is enlarged and the gall bladder often contracted down to a small fraction of its normal size. They suffer with intermittent attacks of jaundice, and chills, fever and sweats, with dull pain in the hepatic region, and with chronic indigestion. Even though they may not, in all instances, be restored to perfect health, yet their condition is so much improved that one is justified in saying that the end results are most satisfactory both to the surgeon and the patient.

Before closing I wish to refer tō a most important element in securing successful end results in gall bladder surgery; namely, an incision of sufficient length to permit the gloved hand to be passed into the abdomen and a careful detailed examination to be made of the abdominal organs. Our gall bladder cases come to us for relief from certain symptoms, in most instances referred by them to the stomach—the so-called ''indigestion'''' ''gastralgia'' or ''gastritis.''

To these patients successful functional end results mean relief of these symptoms, and the surgeon who operates upon the biliary passages and overlooks a chronic appendicitis, a gastric or duodenal ulcer, disease of the right kidney or in the female, disease of the uterus and appendages, is not going to secure a symptomatic cure, and his end results will be disappointing to all concerned.

BIBLIOGRAPHY.

W. J. and C. H. Mayo, Surgery of the Gall Bladder and Biliary Ducts, *Keen's Surgery*, Vol. 3, page 987.

W. J. Mayo, Surgery of the Liver, the Gall Bladder and the Biliary Ducts, *Keen's Surgery*, Vol. 6, page 600.

W. J. Mayo. The Surgical Treatment of Gall Stone Disease. *The Canadian Medical Association Journal*, September, 1911.

L. L. McArthur: Some Therapeutic Possibilities of Biliary Fistulas, *Journal American Medical Association*, January 1, 1910, Vol. LIV, pp. 1 and 2.

L. L. McArthur: Further Advances in the Therapeutic Use of the Bile Tracts, *New York Medical Journal*, May 27, 1912.

Moynihan: Gall Stones and Their Surgical Treatment. W. B. Saunders & Co.

DISCUSSIONS.

William Carpenter MacCarty, Rochester, Minnesota, was asked to open the discussion. He said:

''Mr. President, I have been greatly interested in this review of the subject of cholecystitis.

There is one condition I should like to mention because it has not been referred to this afternoon.

Several years ago Dr. W. J. Mayo operated upon a case or rather explored a case, which had been operated upon previously by an excellent surgeon, who had closed it up as inoperable. Dr. Mayo removed a few gallstones and noted that the liver was cirrhotic. He closed the wound and considered the patient to be in a serious condition. About ten days later the patient died and fortunately there was an autopsy which revealed an interesting as well as an important condition. The liver was cirrhotic, the spleen was enlarged and there was a duodenal ulcer at the papilla of vater. The scar of the base was partially obstructing the outlet of the common duct. Since then I have found two similar cases at autopsy of partial obstruction of the common duct associated with cirrhosis, cholecystitis and enlargement of the spleen.

We know from the experimental work of Tsunoda (Virch. Arch. Bd. 193 Hf 2, 1908) that partial occlusion of the common duct by a ligature will produce typical cirrhosis. This experimental work in the light of the autopsy findings just mentioned is of great practical significance.

To give you an example of the importance of such findings I may mention a case; Dr. Chas. Mayo was exploring the abdomen of a young man who had moderate cirrhosis of the liver with ascites. He drained the gall-bladder and found a moderate degree of cholecystitis. The cirrhotic condition with the ascites plus the presence of a small mass in the duodenum made him suspicious of carcinoma and the case was considered inoperable.

Having clear in my mind the three cases and the experimental facts, and also being impressed with the point that this was a very young man in whom carcinoma of the common duct would be extremely rare, a cholecystenterostomy was advised and done for drainage. Unfortunately the patient died in two weeks, and no autopsy was obtained. I am firmly of the belief that clinicians and surgeons are likely to find a similar condition, and if they do a cholecystenterostomy especially in young individuals may give the patient a chance. It is better than closing up as inoperable. I throw this out as a suggestion based on experimental work.

Leon L. Solomon, Louisville: One cannot help but feel very much benefitted after hearing these splendid papers, setting forth the opinions, not only of able, competent surgeons, with large experience, but also the experience of internists, like Dr. Boggess. As a rule, I find myself compelled to agree with much of the things my friend Boggess says. On this particular occasion, I cannot agree with him in undertaking to treat medically, so many cases and for such a protracted period of time, where the gall bladder and gall ducts are involved. The conclusions he reaches are, as he states, largely based on personal findings. I wish to emphasize, that our conclusions, in human medicine based on personal observation, are very frequently not dependable, even though our experience is relatively large. Fortunately to-day, we have, in the weekly and monthly periodicals which come to our library, a mass of experience, giving the "sum total" therein and thereof, which together with our own personal experience, (small, average or possibly large), serves as a check and a guide to an otherwise optimistic or pessimistic final safer conclusion. The observation I have made, bearing on diseases of the gall bladder and gall duct region, justify me in the belief that the majority of these cases deserve and should, as a rule, undergo operation early, for the good and serious reason that pancreatic disease so often co-incident, may arise, to complicate your case, and even though surgical intervention is afterwards adopted the result is then too often fatal. And if not because of possible pancreatic involvement in these cases, operation, in my judgment, is very frequently demanded in many of them, because of possible later malignant disease. Finally medical treatment of most gall bladder and gall duct conditions is purely empirical, since, without surgery, we are working in ignorance of an exact pathological diagnosis.

Regarding remedial agents to which the doctor has referred, and he has practically included all (and emphasized all, that can be claimed for them), the sum and substance of such therapy is to cleanse the alimentary tract. In sodium salts, glycocholate of soda and the like, and in urotropin, to which the essayist has abundantly referred, it seems to me, we are handling very weak weapons, indeed. If good is to be accomplished by the medical treatment of the gall bladder diseases the best we can hope to accomplish is by means of and through the free use of saline purgatives, epsom salts, glaubers salts, phosphate of sodium and similar agents.

H. H. Grant, Louisville: I would like to thank Dr. Boggess, on behalf of the surgeons, for the position he takes, that there is occasion for medical treatment in acute inflammation of the gallbladder. I would like also to call attention to the fact that this treatment should only be kept up long enough to establish a positive diagnosis. The whole matter is a question of diagnosis. As soon as one determines that he has a chronic condition of the gall bladder due either to infection or the presence of a foreign body provided that patient is able to withstand surgery, the time for surgery has arrived. If it were possible by the X-ray to show a pathologic condition, and this condition was presented, or if there was the presence of infection or irritating material which could be drained away or removed, Dr. Boggess would agree with all of us that drainage should be instituted in acute infections and the foreign bodies should be removed in all cases by a surgical operation. Why should we allow the condition to continue if drainage would relieve it as soon as the diagnosis is made? If the condition is demonstrated to be sub-acute or chronic, drainage should be instituted, and if a foreign body is present it should be removed. If it is allowed to remain a grave condition confronts us, and operative interference should not be undertaken during the high grade of acute infection or in the presence of later malignant disease. If the patient is simply a carrier of stones, he may not have any pathologic manifestation, and we do not know there is anything the matter with him. As soon as the carrier of these stones presents evidence of disease, he is no longer a simple carrier of stones, but he is preparing for a condition by septic producing material that threatens his life. For this reason, it seems to me, there is no other occasion for medical treatment of infections of the gall bladder except to establish the diagnosis, and to establish the fact that this treatment does not relieve the condition. Even if it is simply palliative, if it helps the patient, it does not cure him, and without considering the various phases of gallbladder disease or gallstone disease, as soon as the diagnosis is made of the presence of persistent infection or of a foreign body, which is either in the gall bladder, in the cystic or common duct, surgery should be instituted with a view to preventing these conditions which in a little while endanger the life of the patient and possibly make operative intervention at the time at least out of question.

R. C. McChord, Lebanon: I would like to emphasize one point, and that is the necessity of operating on cases of gall bladder trouble independent of the existence of gallstones. I had my attention called to that especially, recently in an operation which I did on a young woman who had suffered for two years very great pain after eating. She had all the symptoms of gallbladder trouble. She was sent to me for operation. I made a thorough examination and told the attending physician I did not believe she had gallstones, but I thought she had some inflammatory trouble about the pyloric end of the stomach and pancreas and gall duct, and I thought she had obstruction. At the operation I failed to find any gallstones, but I found obstruction at the pyloric end of the stomach and the ducts due to an inflammatory deposit. As soon as the obstruction was relieved she was comfortable. I drained the gallbladder. It showed the necessity of relieving these cases of pancreatitis by draining the gallbladder. She had a beginning pancreatitis with all the obstructive signs, in the stomach. Soon after taking food she suffered intense pain, but as soon as the gallbladder was drained she began to eat anything she wanted and made an uninterrupted recovery.

Gallstones, as a general rule, do not produce all this trouble, but it is when they are of small size and become impacted in the gall ducts that they give symptoms, of pain and obstruction. With gall-stones present, unless obstruction to the free flow of bile occurs, they do not cause much pain.

J. V. Prewitt, West Point: In postmortem examinations, we find gallstones as large as guinea eggs that do not properly belong to the gallbladder, but are made up of plastic material thrown around to protect the inflammatory condition in the gallbladder. Furthermore, we are often called to see a patient with a view to operating when he has had a number of attacks. The patient is jaundiced to the fullest extent, and we know what the result will be. We have got to say this to the family physician; I do not think it is wise to operate on this case now. Why? Because we are going to have a greater or less hemorrhage; the constituents of the blood are such as to give us more or less trouble in the way of hemorrhage, and the condition is therefore unfavorable for operation. You will find a small gallbladder with no stones, but a septic condition, and a patient with a temperature of probably 107 degrees. One may simply find a small contracted gallbladder causing trouble from infection. As the cases come to the surgeon it is very evident that they have been neglected. The trouble is the general practitioner does not submit his cases sufficiently early to be cared for by the surgeon.

W. F. Boggess, Louisville, (Closing the discussion): I have but a word to say in reply. While I agree with nearly everything that Dr. Solomon says, and much that Dr. Grant says, I do not retract one iota from my paper, for the reason that I believe there is a medium ground for the intelligent internist. Do you believe every little case of catarrhal jaundice or cholangitis is a surgical case and should be at once taken to a surgeon and have the belly opened? Can you say that every case of cholencystitis, with thickening and inspissation of bile that comes from a catarrhal condition, cannot be relieved, the infection removed, and the bile liquified and the patient relieved? In the incipiency of these cases there is a time for medical treatment. I do not say that I can dissolve a gallstone. If a gallstone is in the gallbladder, and is offending it should come out. If you have a serious infection which endangers the life of a patient, the gallbladder should be opened. Most of the old cases that come to us, come during a period when they have had cholecystitis and cholangitis for weeks and years. It is the recognition of these early stages of these cases, and the prevention of gallstones, and the relief of the simple cases of cholangitis and cholecystitis that I was speaking about in my paper. There is much in the intelligent treatment of these cases thus liquifying the bile and relieving the infection of the gallbladder. These patients, even with stones, are thus enabled to go to the surgeon in a better condition for operation, and the end results of operations are incomparably better after they have been treated by an intelligent internist. (Applause).

F. H. Montgomery, Danville, (Closing the discussion): There are a few things I would like to notice in connection with this discussion. In the first place, I cannot see any connection between tonsillitis and infection of the gallbladder. I seriously doubt whether the gallbladder is ever infected through the general circulation of the lymphatic system. As we all know, the gallbladder is very poorly supplied with lymphatics, and it does not seem to me very rational that gallbladder disease can be brought about either through the general circulation or through the lymphatic system.

The question of enlarged gallbladder, it seems to me, is one that is very important not only to the surgeon but to the general practitioner. When we get an enlarged gallbladder, we had better be on the lookout for some malignant disease about the head of the pancreas. That we get an enlarged gallbladder from stone in the cystic duct, I think is unquestioned or from empyema of the gallbladder, but I think whenever we get an enlarged gallbladder, very grave consideration should be given to the question of carcinoma somewhere along the ducts, especially in the head of the pancreas.

As to the clinical cure of gallstones, that seems to be rather mythical, and also as to the question of whether gallstone colic is due to the passage of gallstones through the ducts into the intestine. If the colic is brought about by the passage of a stone, you will find others left in the gallbladder. More frequently the colic is produced by some obstruction in the gallbladder cystic or common duct, more likely in the neck of the bladder or in the cystic duct.

Finally, what is it that produces the serious results, the deaths in gallstone surgery? It is not the gallstones, but it is the complications which they produce. If you resort to gallstone surgery early, as soon as you make the diagnosis, or even if you have to do an exploratory operation to make the diagnosis, if you remove the stone or stones early, you can cure practically every one of the patients. One-third of one per cent. is probably the death rate. When operation is delayed and the case is allowed to drift on to the lodgment of stones in the common duct, to pancreatitis, either acute or chronic, to cholangitis and enlargement of the liver, then you have most serious conditions to deal with. If you operate on these cases early and promptly, you will have very simple conditions to contend with, and your mortality will be small while your functional end results will be positive cures in 90 to 95 per cent. of cases.

ACUTE ANTERIOR POLIOMYELITIS.*

By W. L. Mosby, Bardwell.

This is not a new disease as Mitchell refers to evidence of its existence 3700 years before Christ, Underwood as early as 1774, gave historic evidence of this malady as did other early medical writers. Jacob VonHeine gave the first clinical description and symptomatic differentiation of this old but now modern disease in 1840.

Poliomyelitis may be acute, sub-acute or chronic, and it may exist sporadically, indemically, or as an epidemic, but when in the latter form it does not usually cover or extend to a large area at one time.

The infection involves the central nervous system and mesenteric lymph nodes, but may be found in the mucous membrane of the nose and throat and mucous secretions of stomach and intestines.

The essential morbid process or pathology is an inflammation of the anterior horns of the cord, manifesting itself predominantly in the veins and lymph channels of the gray matter affecting the cells and neuroglia.

Histologically lymphocytes, sometimes polynuclear leukocytes, transition forms and rarely fibro-blasts compose the inflammatory foci.

The extent and destructiveness of the inflammation will be determined by the virulence of the infection "*materies morbi,*" the susceptibility of the individual and whether confined to a few segments or extends throughout the cord and dipping deeper into the spinal roots and meninges as well. A tendency towards limitation and an inclination towards a restitution of the morbid process in the tissues with a disposition to "normal resistance" affords wonderful protection against greater destruction in most of cases. In its etiology it has been demonstrated that a minute, non-filterable virus, which cannot be strained or isolated exists. Taken from the mucous membrane of the nose, mouth, throat or spinal fluids of an animal suffering from poliomyelitis and injected into monkeys the disease is produced in two or three up to thirty-five days. Dr. Rosenau of the Harvard Medical School found that the stable fly (stomoyx calcitrans) was able to transmit the disease from an injected, effected monkey to another monkey in six cases out of twelve; possibly some twenty-one days must elapse after taking virus into his system before it is capable of transmitting the disease. At his request Drs. Anderson and Frost, two careful and capable surgeons of the U. S. Public Health and Marine Hospital service were instructed to repeat this and similar experiments, which they did in Washington, D. C., with the same results as given by Dr. Rosenau.

Poliomyelitis is essentially a summer disease and occurs most frequently in late summer and my observation and summary of my own cases gives November the larger per centage of cases. Three thousand cases of poliomyelitis were reported by the bulletins of the U. S. Public Health service in 1910, and an annual increase has been manifest for many years, so a knowledge of the mode of transmission by the stable fly means a knowledge of its prevention as well. In the *Journal of the A. M. A.*, August 16th, 1914, we notice an article by Drs. Sawyer and Herns of the Hygienic State Laboratory, Board of Health of California, in which they had conducted experiments in seven cases on the monkey with negative results. Technique and environments may have been responsible for failure of transmission. This phase of the subject needs positive confirmation and we anxiously await further investigations in this line.

When Prof. Theobald Smith demonstrated that the so-called Texas fever in cattle was transmitted by the tick, Prof. Koch proclaimed this discovery of Dr. Smith's as an epochmaking advent in our knowledge of the distribution of disease. Almost immediately the discovery that malaria and yellow fever were transmitted by the mosquito, sleeping sickness by the tsetse fly, plague by means of the flea was made. Results of these discoveries has been of great importance to preventative medicine.

Yellow fever was soon eliminated from Cuba and our southern coasts, and malaria and yellow fever from the Canal Zone, bubonic plague brought under control and with the knowledge of the spread of poliomyelitis a most formidable weapon has been added to our armamentarium to prevent its spread to our infantile population, leaving destructive evidence of pathologic sequelae in the form of paralysis of muscles and limbs with varying degrees of deformity depending on the cytolysis in each individual case.

Epidemics in this country have given splendid opportunity to study the etiology and clinical symptomatology and many forms have been described by Wichman, Peabody, Draper, Flexner and many others but at the present time authorities fail to agree on a uniform classification, preferring to embarass the practitioner with infrequent types that sometimes prevail. We are satisfied with the four forms most frequently encountered and to one of which all other cases may be usually classified, viz: abortive, spinal, bulbo-spinal and the cerebral, thereby simplifying the study of the subject.

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*Read before the Carlisle County Medical Society.

SYMPTOMS.

Premonitory symptoms characteristic of all the ordinary infections diseases, apathy, somnolence, disinclination to play or work and unusual stupidity are the first indications of the disease.

In from a few hours to a few days a rise in temperature 102 to 103 degrees F. lasting from twenty-four to forty-eight hours in children and longer in adults is the rule. It may be preceded or accompanied by chilliness but in children nervousness, manifested by irritability of the central nervous system, vomiting convulsions, flightiness, opisthotonos, strabismus and unusual complaint on being handled or being moved as though great pain was occasioned thereby. After a few days paralysis is seen in the muscle or group of muscles in one or all the extremities, more often one of the lower extremities is involved, and more frequently the muscle or those functionally associated are found to be affected. We will soon discover atrophy in the affected limb and disturbed function of the bladder and rectum if patient is observant to calls of nature. With increased atrophy is accompanied loss of knee jerk or tendo reflex. Response to galvanic or faradic current in muscles is diminished or lost according to extent of anatomical lesion and muscular paresis present and the degree of muscular faradic irritability has a significant prognostic value. The prognosis is unfavorable if complete recovery functionally is the standard by which to judge. The abortive forms practically all recover. About 20 per cent of the spinal cases get well. The prognosis is more unfavorable when lesion is situated in upper cervical cord or medulla oblongata. In other cases the severity of the infection will determine the danger measured by physiological resisting powers of the individual case.

TREATMENT.

Treatment may well be considered under four divisions. First, prophylactic, which would include strict precaution against the spread of the disease. Isolation of patient, screens to keep out flies and mosquitoes and exclusion of other children which should not be permitted to attend school. Room should be fumigated as for other infectious diseases, those not affected should have nose and throat sprayed with 5 per cent solution of peroxide of hydrogen, or Dobell's solution, or the insufflation of the powder composed of menthol three grains, salol 65 grains, boric acid five drams, two or three times daily. Urotropine or hexamenthylene five grains t. i. d., is thought to possess prophylactic value. Quarantine should include five weeks. As Flexner has shown from two to thirty-five days as intervening from the inoculation to the development of the disease, but the Paris Academy of Medicine recommends three months as the proper time for isolation. Healthy subjects may be contagion carriers.

TREATMENT OF THE ATTACK.

The application of cold to the spine and head, if aching or nervous or cupping of the spine and the administration of small doses of calomel frequently repeated and followed by a saline purge and antipyretics to meet febrile indications will constitute the initial or premonitory treatment. Salol and phenacetine will relieve the pain and control fever and check intestinal fermentation. Convulsions may require the inhalation of chloroform, hot or lukewarm baths and bromin salts. Moving patient elicits pains hence very gentle handling will be necessary. Plaster Paris jackets have been suggested to render the patient more comfortable. Patient should be kept quiet in bed and hexamenthylene administered from the time poliomyelitis is diagnosed or suspected until recovery occurs or the contra-indications to its use is manifest. Local counter-irritation over lesion in cord is useful but should not be carried to the point of injury. Moderate elimination and attention to assimilation and digestion are to be cared for and rest in bed during process of repair to inflamed nerves, full recovery depending upon the completeness of the absorption of exudates.

TREATMENT OF EARLY SEQUENCE.

Two to four weeks after the fever subsides we should direct our efforts to the prevention of atrophy and the restoration of functions and nutrition in the paralyzed limb or muscle. Electricity, massage, local warmth, movements or exercise are to be utilized. Electricity meets two indications, viz: To facilitate flow of blood and lymph through pathologic, anatomic structures and to hasten recovery, and to stimulate peripheral neuro muscular apparatus, prevent atrophy, increase the nutrition and volume of fibres in atrophic muscles not already destroyed.

Galvanism meets the first indication, the positive pole being placed over the spine or foci of the disease and the negative over the muscles affected or the feet of the patient, and a current of five milliampheres is allowed to pass for five minutes twice per day. Faradic or galvanic electricity applied to atrophied parts constitute a remedy for local paralyses and muscular atrophy. Where degenerative changes are so pronounced that reaction is entirely absent, we may expect little or no benefit from electric treatment, but where the slightest reaction occurs, we should persist in seeking out responsive muscles with from two to four milliampheres of faradic current once or twice daily. The electric bath administered in evenings constitutes one of our best methods of treatment. Light massage, pinching of kneading of wasted parts, active application of alcohol and sweet oil by inunction producing friction in its application, are valuable remedies. The wearing of flannel underwear and stockings at night are useful in supplying warmth necessary to the body. Baths at temperature of 95 degrees to 98 degrees F. are valuable means of increasing warmth and motion to feeble limbs, these should be continued for thirty to forty minutes daily followed by massage of the parts. After all inflammatory phenomena have subsided strychnine will be found to increase nutrition in the feeble muscle by the stimulation of the sympathetic nerves.

TREATMENT OF LATE SYMPTOMS.

The treatment of the remote effects of poliomyelitis might be properly referred to the orthopedic surgeon; so we shall only very briefly allude to a few generalities in connection with the practitioner's duties. Deformities are a very common sequence of this disease, so the alert physician should constantly be on guard to prevent it. Some form of club foot is the most frequent deformity and equino-varus the most common. When a muscle or environment of a muscle weaken or lose power to contract the opposing muscle moves the limb in the opposite direction. These faults are mobile early but become fixed later and tendon section may be required to permit normal replacement of contractures.

In equino varus a band above the ankle and one around the ball of the foot connected by a rubber band may relieve hyper-extension and correct deformity. This principal will likewise apply to other forms of varus. Prosthetic apparatus to assist patient in locomotion later may be necessary. Over-replacement with fixation may be useful in properly selected cases. Tenotomy timely done is a valuable procedure and should not be too long delayed where indicated. Spinal deformities are static or compensatory. Later may be lateral curvature or a so-called "caddle back" deformity. These may be cured or better prevented by proper gymnastic exercise. The so-called "flail joint" may be improved by performing athrodesis (artificial ankylosis).

Tendon grafting or "function transference" proposed by Nicoladona consisting in grafting healthy tendons into paralyzed ones has been successfully performed and in suitable cases may be utilized. These radical surgical procedures should be referred to a competent orthopedic surgeon for their performance.

INTESTINAL PARASITES.*

By T. ATCHISON FRAZER, Marion.

Intestinal parasites are much more frequent than was formerly supposed, and our knowledge of them is more scientific. We thought we knew a great deal about intestinal parasites many, many years ago, and writers of text books described long lists of symptoms ascribed to the various worms that wont to inhabit the human anatomy.

Not until Dr. Stiles a few years ago took up the investigation of hookworm in the South did we know much about the various inhabitants of the intestinal canals. I sometimes think that it is better not to know so much than to know so much that is not true.

I intended in this paper to discuss the various parasites and especially the hook worm but after some little study I have concluded to devote this paper to Oxyuris Vermicularis and Ascaris Lumbricoides, and at some future period take up the discussion of the other intestinal parasites.

It is a common belief among the laity that every child that grits its teeth or picks at its nose is infected with worms, and there are various remedies recommended by the laity, as well as the proprietary medicine man to relieve the child of its worms, also to relieve its parents of as much money as possible.

The first parasite I will discuss is the Oxyuris Vermicularis. This worm inhabits the sigmoid and the rectum and is comparatively rare. The female worm, however, being found near the cecum. The worms and ova are passed in large numbers, and when entangled in masses can be easily seen. In girls the vagina may become infected from the discharges. They are very small, and are often called the pin-worm, or seat worm. The mode of infection is by infected fingers, toys or food that is contaminated with the ova. These being carried with the food to the cecum and there develop.

Symptoms: The chief symptom is the intense itching of anus and buttocks, produced by the worms in the rectum. The child is usually very restless and is constantly scratching about the buttocks. There is usually a catarrhal condition of the rectum after the worms have been there for some time. In the female they often migrate to the vagina, and produce a vulo-vaginitis; incontinence of the urine may occur from the irritation of the bladder. In the male an irritation of the prepuce may result with swelling and pain on voiding. The skin on the buttocks will show evidence of scratching.

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*Read before the Crittenden County Medical Society.

Diagnosis: In every case of pruritis the anus and buttocks should be inspected, and, if carefully done, the worm will often be found. In every case of masterbation the presence of thread worms should be suspected. Often what is supposed to be mucus in the feces is a mass of these little worms. The diagnosis is positive when you find the worm or the ova in the fecal matter, and the ova can only be seen by aid of the microscope.

Treatment: The chief procedure in the treatment must be had by the use of injections into the colon through a long tube, as the habitat of the worm is below the cecum. The treatment must be thorough or the results will be unsatisfactory. First a preliminary dose of castor oil should be administered, and this should be followed by a high enema of normal saline solution, of not less than three pints. After this solution has been allowed to pass the tube should be re-inserted and a solution of one ounce of infusion quassia in fifteen ounces of normal salt solution should be injected high up and the tube quickly withdrawn, the nates compressed and the child kept quiet so as to retain this solution as long as possible. This procedure should be repeated every night for one week and then a microscopic examination made. The ova may become attached to the skin about the anus and the child in scratching may get them on their fingers and thereby reinfect themselves. An ointment of boric acid ten parts and vaseline ninety parts applied night and morning will prevent this re-infection. Anthelminties may be given along with this treatment, the best of which is santonin, but no cure has been made with them alone.

ASCARIS LUMBRICOIDES—ROUND WORM.

As indicated by its common name this worm is round and measures from four to twelve inches in length. It tapers at both ends. This parasite was by far the most common to be found in the alimentary canal up to the time of the discovery of the hook worm, and it is the worm most dreaded by the laity. The State Board of Health of Kentucky found 7776 cases of round worm in 32736 specimens examined in the State Laboratories. One must not forget that adults as well as children may be infected by this as well as the other intestinal parasites. The female is about twice as long as the male, the head having projections, and provided with suckers. The tail of the male is turned upward. The ova are round, brownish in color, and slightly larger than the thread worm. There may be only one worm present, or there may be many, as a rule there are several. I have seen as many as ninety-six pass from one child, and one hundred and fifty-three pass from an adult. They may be found at any point in the alimentary canal, in the stomach, from which they are usually vomited, in the appendix, and the gall duct and bladder. They may coil together and form a mass of sufficient size to cause an intestinal obstruction.

Mode of Infection: Adults are just as susceptible of infection with this worm as are children if they have the same opportunity to swallow the ova. Of course children put more filthy things in their mouths than do adults, and therefore the reason for more worms in children. The ova is expelled along with the feces and the food, playthings, or fingers become contaminated and in this way get in the mouth, are swallowed, and hatch out at some point in the intestinal tract, where they find suitable environment for their development.

Symptoms: Large numbers of worms may be present and cause no symptoms. The child I mentioned that passed ninety-six was suffering from pneumonia and worms had not been suspected until two were vomited. The symptoms believed by the laity to be common are restlessness at night, flatulency, picking at the nose, grinding the teeth, headache and convulsions. But these have no significance as a diagnostic aid at all, but are caused entirely by other pathologic conditions.

Diagnosis: There are only two pathognomonic guides in the diagnosis of worms; one is the passing or vomiting of worms, the other is finding ova in the feces with the aid of the microscope. In our state, it is an easy matter to have these examinations made as the State Board of Health is ready to make the examinations free of charge if the specimen of fecal matter is sent to their laboratories.

Treatment: It is an easy matter to treat these cases when the diagnosis is made. There have been many anthelminties lauded by the profession as well as the laity, but the one we can always rely on is santonin. I prefer to give it in the old fashioned way with calomel; but to get the same effects and at the same time obviate any danger from the drug, we must exercise care in its administration, remembering that we are dealing with a powerful drug. The patient should eat a very light supper, and the drug should be given in the early morning and followed in three hours with a half ounce of castor oil. For a child two years of age I give two grains of santonin, three grains of mild chloride of mercury, divided into four powders and give one powder every hour till the four are taken.

In all cases where the diagnosis is positive we should have an examination of the feces made about the third day after giving the santonin, and if the patient is not clear of worms the ova will be found. There is not so much danger of the toxic effect of the santonin if it is given with calomel.

HEALTH HEALERS HEALING.—A GLANCE AT SOME FACTS, FADS, AND FANCIES.*

By A. J. Andrews, Lexington.

Health is described as that condition of the individual in which every function is properly performed; the same being maintained by the injection of suitable substances which can be utilized by the system for the purpose of generating the different forms of energy needed; and by the elimination of waste materials by the proper channels, caused by the functioning of the different tissues and organs.

Loss of health comes from many sources, external or internal in origin; faults in the quality, variety, or preparation of the food; faulty assimilation, or over assimilation being frequently the beginning of many of the more serious diseases.

In that most general of all diseases, Tuberculosis, of which I have seen many hundred cases, in almost every instance I have traced the origin to some fault in nutrition. So, the way to treat this, is to prevent it by the following of the laws of nature. It is not a serum or a cure that we need, half as much as a little understanding by the people of the importance of the natural or physiological laws. A little more fresh air: a little less hurry and worry; a little more care in the selection of foods; less work for the over-worked; more exercise for those of sedentary occupations, and tuberculosis would soon become the least important of all serious diseases. The spreading of this knowledge, and the feeding by the community of the underfed, would do far more to stamp out this disease, than all the sanitaria for the treatment of tuberculosis in the country to-day. Begin at the beginning, and prevent this disease.

We might say that half the people are prescribing for the other half. Every day or two the statement comes from a patient suffering from some ailment that, "they have tried everything that anybody told them," including or two different preparations recommended by the ever-accomodating druggist. I saw a striking instance of this a few days ago. I was called to see a young woman, she presented one of the worst cases of salivation I ever saw. Her mother told me one of her friends advised her to get some calomel, she sent for five cents worth, the messenger brought a dime's worth without her knowing it, she took it all at one dose, with the result mentioned.

If anybody is ailing, everybody they meet has some remedy to suggest and advice to give, to help the sufferer. The druggist is the next party the sufferer turns to; he always has something that is highly recommended. The daily papers have large alluring advertisements of patent and proprietary remedies, of quack advertisers; and of so-called specialists in all departments. Nearly every daily newspaper has a doctor in charge of a health column where the readers may obtain free advice and prescriptions. We have the hydrotherapists, who treat all diseased conditions by water, hot or cold, or both, externally and internally. Then, those who combine hydrotherapy with different forms of electric treatment and others who also give massage. In some nations massage is very much practiced apparently with good results. Note the place it occupies in Japan and Sweden.

Physical culture is doing wonders, when properly directed, in creating in the young a desire to take care of the body. Note what it has done in the countries where it receives the attention it merits, in Germany, and Sweden especially, but is not neglected in other nations. The educators and leaders in these nations recognized the truth of the Roman proverb: *"Mens sana in corpore sano."* so take care of the bodies of their children by proper hygienic measures and physical training, and then trained their minds.

The hygienists do not use as much apparatus as the devotees of physical culture, but by following the laws of nature closely, as regards diet, bathing, exercise, and fresh air, secure almost perfect health.

The osteopaths came in with a great blare of trumpets a few years ago, in some directions they have done good, but. this system certainly has its limitations.

Spondylotherapy is a form of treatment by spinal manipulation. I have seen a couple of cases in which the patients thought it did them serious injury.

Some years ago, homeopathy swept over the country. It did good by lessening the character and eliminating many of the nauseating properties of different medicines, and caused the greater use of alkaloids, but it certainly sounds queer to hear some of these gentlemen talk of "high potential," viz: "the one-fifty-thousandth of a grain, etc." of a drug in the treatment of a certain condition and diseases, but by referring to the files of the druggist, we find that they frequently prescribe medicines used by the regular school. A few years ago some of these "high-potential remedies" were "tried out" in some of the large hospitals. It was found that patients did just as well on plain water, colored with a little burnt sugar, as on these remedies; the secret of all is in the nursing.

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*Read before the Fayette County Medical Society.

The eclectics profess to practice both schools. When the principles of the homeopaths and the regular schools of medicine are compared, this is shown to be an impossibility. So theirs is a dignified straddle and a "do as you please."

A few years ago a very prominent surgeon made the statement before one of the medical societies of New York, that. "He believed, that the day would come when every child over a certain age would have its appendix removed."

Some marvelous work is being done by the surgeons, but even now the old surgery is on the wane; people object to being cut, and as long as they do and can pay for something better, they are going to avoid the knife. The new surgery, constructive in type promises wonders.

Sero-therapy, vaccines, and bacterines are going to be used to prevent operations of a certain type. In the near future these agencies will be used accurately. Examinations of the blood will show just how much and which one to use; and may prevent 75 per cent of the operations deemed necessary today.

Some of the States are beginning to legislate against needless or reckless operations, and all surgeons will be held to a stricter account. In the future the regular practitioner of medicine must be more of a teacher and adviser than a prescriber; many of the diseases now prevailing will be stamped out by sanitation, by quarantine, by perfect fumigation, and by vaccination. Vaccination has practically stamped out smallpox. Bactero-vaccination and sanitation will stamp out typhoid fever; more rigorous quarantine will help out with the bacterines in eliminating scarlet fever, measles, whooping cough, etc.

The social evil must be controlled, and with it, syphilis and diseases incident to immorality. This is a greater curse than many people imagine.

We must not forget that human beings as such have existed on this earth for many thousand years; over twenty-five thousand years according to some authorities. Remembering the law of nature of the "survival of the fit," we represent the fit, consequently our heritage is good health, and by closer attention to these laws of nature, the health and well-being of the whole race can be improved. A professor in one of the European Universities deplored some of the remedial measures used at the present day, as it tended to promote the survival of the unfit. That other professor in California who stated to his class, "What a glorious race this would be if only the inferior two-thirds could all die" was wrong, for care and attention can restore almost any of the inhabitants of this country to-day, to vigor and health, for we all represent the "heirs of all the ages."

Healing, whether in man or in the animals, or even in plants, all follows the process of nature, and is evidently the same to-day as it was thousands of years ago. If the injury comes from disease, or from outside violence, if not beyond a certain point of tolerance, then the patient recovers, if beyond that, then dissolution or death takes place.

In many diseases, nursing and certain therapeutic measures have proven their efficiency, including diet, and bathing appropriate to the condition of the patient. Professor Brandt of Germany, showed what could be accomplished by bathing and nursing in typhoid fever. Under the older methods, the mortality was from twenty to forty per cent.; under his method it went as low as two per cent.; but the latest method promises a hundred per cent. of cures by vaccination.

The propagation of certain types should be prevented, if we are to have a better race. Those of criminal tendencies or criminals, and those physically deficient, or diseased, should be sterilized.

APPENDICITIS.*

By J. H. Caldwell, Cincinnati, O.

Appendicitis with its various complications and sequelae is a disease that has attracted the attention of the medical profession of America and many other nations a great deal during the past decade, it being a disease that is so common and there has been so much written upon the subject by the most able medical men of the world it would seem that the last word has been said. In regard to this disease, even the public press during the past two or three years has published many articles upon appendicitis, giving the lay public some correct ideas and many erroneous ideas of the disease. The more intelligent of the lay public have been educated upon this subject enough to appreciate some of the virtue in the surgical treatment of this disease, therefore making it less difficult to get their consent to operate when indicated, before it is too late, also our modern technic of operation make the prognosis in this disease more favorable than it was 15 or 20 years ago. My purpose in calling your attention to this disease to-day is not to discuss the disease in all its phases as time will not permit, but to mention one of the complications that is occasionally found, namely, appendicitis complicated with pregnancy, and to report three cases that have recently been under my care. As we all know there are many mild case of appendicitis that recover without calling a physician and never know that they had appendicitis, but we also know that the majority of these mild cases recur, some of them a number of times and become chronic, such a case may have an acute exacerbation at any time and demand immediate operation. It is this particular class of cases that are dangerous when complicated with pregnancy, as the appendix is generally kinked or bound down by adhesions and the uterus gradually enlarges making pressure upon all the abdominal organs the appendix included, thus causing the chronically inflamed appendix to become acutely inflamed, as a rule some time before the pregnancy is full term and these cases are apt to develop peritonitis and die if not operated upon at once, and when such a case is operated upon the prognosis is bad. It has been my opinion for some time that all cases of appendicitis complicated with pregnancy should be operated upon as early as possible, unless some other grave complication is present that would absolutely contraindicate operation. Ordinarily if the operation is done before pus has developed there is no danger of ventral hernia following, and the pregnancy goes on to full term, the mother and child being saved. The report of the following case will coincide with my previous statement:

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*Read before the Pendleton County Medical Society.

THREE CASES OF APPENDICITIS COMPLICATING PREGNANCY.

CASE I.

May 9, 1912, I was called in consultation by Dr. J. E. Pingnely, eighteen miles from the city to see Mrs. J. P, age 19 Family history negative

Personal History: Has had the ordinary diseases of childhood, began to menstruate at the age of 13 and menses have been regular and normal until 6 months ago, when she became pregnant menses stopped Several times during the past two years she has had attacks in which she would become nauseated often vomit and suffer with severe pain in the right side of abdomen but recovered each time within one or two days without calling a physician. May 6, 1912 she had another similar attack but seemed to get worse and called Dr. Pingnely and he called me in consultation May 9, 1912. When I first saw the patient her tongue was covered with a heavy white coating, she was slightly nauseated but had not vomited within the previous three or four hours. Temperature 101, pulse 110 and rather weak, abdomen distended and tympanitic above umbilicus and in hypochondriac regions, but dull on percussion all over lower half due to the enlarged pregnant uterus. There was rigidity of all abdominal muscles, more marked on the right side, legs and thighs flexed and an anxious expression of the face. It was evident that here was peritonitis present, probably due to an inflamed or perforated appendix. As the patient lived within a half block of the railroad station and there was a train due within an hour, I advised placing her upon a spring cot and taking her upon this train to the Good Samaritan Hospital. The patient consented. Then I gave her 1-4 grain morphine to give her some temporary relief so we could handle her without causing such intense pain. We arrived at the hospital about 7:30 P. M., and put the patient in bed, she apparently was holding her own as the pulse and temperature was the same as when we started on the journey, so I thought it best to give her normal saline solution per rectum and not operate at once if it was possible to avoid operation on account of the pregnancy existing at this time. I left orders with the interne to call be by phone if there was any change for the worse. The patient seemed to be doing well until 11:30 P. M., when she began to vomit again and pulse ran up to 130; the interne called me and when I arrived I saw at a glance that she was rapidly losing, as the pulse was 140 and weak. We took the patient to operating room and at 1 A. M., I opened the abdomen at McBurney's point and found a large gangrenous appendix bent upon itself at the middle and perforated at this point and also perforated at the tip. It was burried behind the pregnant uterus and there was a general suppurative peritonitis present. I removed appendix and drained all parts of the abdomen with gauze and large rubber tubes, we put her back in bed and gave her 1-100 gr. digatiline and 1-30 gr. strychnine, hypodermically, and gave her normal saline solution per rectum slowly and she retained three quarts during the first 2 days following the operation but on the third day pulse went up to 144 and was gradually getting weaker and temperature 103; I then gave her 300,000,000 units mixed staphylococcic vaccines as the staphylococcus was the predominant microorganism present in the pus that was flowing very freely from the wound. The next day pulse was 120 and temperature 100 until 4 P. M., when pulse began to get worse again. At 6 P. M., I repeated same dose of vaccines and next morning temperature was 98.4 and pulse 100 and patient feeling much better, the temperature never went above 99.5 or pulse above 110 thereafter, except when she miscarried ten days after operation, then pulse went up to 130, but soon came down again as she had gained sufficient strength to endure the shock accompanying the miscarriage.

The baby lived one-fourth hour, but it was too premature to offer any hopes of saving its life. The patient had regained her former strength within four or five hours after the child was born, and gradually gained in weight and strength although there was pus discharging from the wound for five weeks. The patient left the hospital after a rather long, tedious convalescence of six weeks, but was not in robust health until she had a long rest of six months at home. She did not develop vential hernia as I thought she might as any similar case under such circumstances may be expected to do. At present she is perfectly healthy.

CASE II.

Mrs .B., age 19, married. Family history negative.

Personal History: Has had ordinary diseases of childhood, but has never had any serious illness; began to menstruate at the age of 12, and has always been regular and normal until September 10, 1912, she failed to menstruate and had the usual symptoms of early pregnancy. About one year previous she had a mild attack of appendicitis and recovered after one week's rest in bed, and again had a mild attack of appendicitis June 27, 1912, but was up again after four days in bed with ice cap on abdomen. There was a slight tenderness remaining in region of the appendix until October 1, 1912, when the pain became acute, but there was no vomiting and temperature was 99, and pulse 84. She was almost two months pregnant at this time so I advised immediate operation and the patient consented. The folowing day, Oct. 2, 1912, I operated and made a right rectus incision, being careful not to cut any of the muscle fibres, I removed a conjected appendix six inches long and found the uterus enlarged and pregnant, the patient made an uninterrupted recovery and was home within two weeks after the operation and remained well and did not miscarry. May 17, 1913, I delivered her of a normal, healthy child at full term, the labor was normal and the abdominal wall remains strong with no signs of a hernia.

CASE III.

Mrs. H., age 29, married, has one child 4 year sold. Family history negative.

Personal History: Has had the ordinary diseases of childhood, began to menstruate at age of 13 and was always regular and normal. She had a mild attack of appendicitis about three years ago, and recovered without operation, but often had pains in the region of the appendix, and there was always tenderness upon pressure at McBurney's point since she recovered from the acute attack of appendicitis. I advised operation several times but it was refused. She became pregnant again, June 1st, 1912, and came to my office, September 3, 1912, complaining of pain over the appendix, but pulse and temperature were normal, the pain from this chronic appendix was growing worse and the patient stated she had some days that she could not attend to her household duties. I urged operation at once and explained to her that she being three months pregnant and this chronic appendix getting worse that it was evident that she would have an acute attack some time before she was delivered of the child, as the uterus was enlarged and making more pressure upon the appendix, and told her that if that occured, which I was almost cetrain would occur, that she would then be compelled to submit to operation to save her life and that she would in all probability be in a very critical condition and that the child's life would be lost. She deferred the operation at this time, but submitted to operation Noecember 26, 1912. She then being six months pregnant as she was then thoroughly convinced that she would eventually have serious trouble, as the pain was getting very acute at timse. I opened the abdomen on right side by making a grid-iron incision, not cutting any muscle fibres and removed the appendix, which was bound down behind the uterus with some adhesions. She made an uninterrupted recovery and left the hospital two weeks after the operation. And was free from pain. I delivered her March 4th, 1913, of a fine baby girl weighing eight and a half pounds; the labor was tedious and she was a very small woman only weighing 100 pounds when she is well nourished. She had strong pains, but was unable to deliver herself, so I was obliged to deliver with forceps. She and the baby are well and there is no more pain, the abdominal wall is perfectly solid no signs of any hernia.

COUNTY SOCIETY REPORTS

Daviess—The Daviess County Medical Society held its regular meeting on September 16th, with the president, W. L. Taylor, in the chair, and thirty-three members present.

R. L. Schroeder was admitted to membership. Dr. Schroeder lately moved here from Chicago, and likes our town better than he did the village on the lake.

J. H. Thorpe made application for membership Dr. Thorpe comes from McLean county, where he has practiced for years, but lately took a special course in diseases of the eye, ear, nose and throat, and came here to practice in those lines.

Our delegates, Drs. McDonald, Dixon and Gillim, made very favorable reports of the State Meeting, but thought the best thing that was done was the election of J. W. Ellis as president.

D. M. Griffith reported a case of tumor in the mouth, which on examination proved to be a dislocated parotid gland. The patient, a child, had received a punctured wound under the jaw made with a fishing rod. The doctor stated that he could find no similar case reported anywhere.

J. T. Dixon reported a case of gonorrheal conjunctivitis treated by ice-cold applications, not irrigating by wiping away the pus, and applying argyrol, with quick and happy results. An interesting discussion followed.

C. M. Rice read a paper on chronic constipation. This paper was discussed by most of the members.

T. J. Townsend read a paper entitled, "The Microscopic Host," which I send you.

S. J. Harris reported a case of "Acute Phemphigus Vegetans," which was sent for publication in the Journal. The case was discussed by several.

A. A. Schultz had seen a case so diagnosed by a specialist in a hospital at Chicago. He was put in a continuous bath for two weeks. Recovered.

W. F. Stirman had seen two cases in private practice. No other members had seen the disease. No one doubted the diagnosis of Dr. Harris, but the case following vaccination before the sore had healed, added interest to it.

J. J. RODMAN, Secretary.

Harrison—The Harrison County Medical Society held its regular monthly meeting August 4, at Drs. Givens, Wells & Moore's office.

M. McDowell called the meeting to order. Members present: Givens, Martin, Rees, Smizer, Todd, Eckler, Carr, N. W. Moore, Wells, Wood, Best, Vanderin, Wyles, W. B. Moore, Boyd, Swinford, Rees, McDowell and C. M. Clifford of Leroy, Ill.

J. E. Wells reported a case of "Ranula with Abscess," and exhibited stone removed from gland.

N. W. Moore reported case of a child made desperately sick for a few hours from swallowing a bug. The diagnosis being very obscure until the child vomited the bug along with considerable blood.

N. W. Moore read a paper on "Etiology and Treatment of Constipation." Paper discussed by Wells, Rees, Wood, Carr and Givens. Society adjourned to partake of an elegant lunch with Dr. N. W. Moore as host.

W. B. MOORE, Secretary.

Harrison—The Harrison County Medical Society was held in the offices of L. S. Givens, Wells & Moore, on July 14, 1913.

Meeting was called to order by President M. McDowell. Members present: Drs. Wells, Martin, Rees, N. W. Moore, Vanderin, Smizer, Givens, Boyd, Wood Petty, W. B. Moore, Best, McDowell and Wyles.

L. S. Givens reported a case of a man, age 66, received an injury to eye by being kicked by a horse. Two months after injury was received it became necessary to remove the eye. Patient was doing well until seven days after operation when he suddenly became unconscious and died in a few minutes. No port-mortem was permitted and cause of death was not determined.

J. E. Wells read a paper on "Prophylaxis of Typhoid Fever."

Marie Boyd read a paper on "Sanitation in Fourth Class Cities."

These papers were freely discussed by most of the doctors present.

W. B. MOORE, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House, in Falmouth, on July 9th, 1913, with the following members present: Drs. Blackerby, Brown, Chipman, Clark, Ellis, Hopkins, Kendall, McKenney, Nichols, John E. Wilson, J. Ed Wilson, Woolery, Dr. Caldwell, visiting.

We had three good papers read before the society, and all were ably discussed by the members present, and all entered into the spirit of the meeting with vigor. We also had some very good reports of clinical cases, which seemed to be the most entertaining work of our society, and the most appreciated.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House, in Falmouth, on Wednesday, September 10th, 1913, with the following members present: P. N. Blackerby, O. W. Brown, N. B. Chipman, H. C. Clark, E. A. Cram, J. F. Daughterty, N. H. Ellis, S. M. Hopkins, W. A. McKenney, S. C. Nichols, John E. Wilson.

The President called the meeting to order and after roll call and reading of the minutes of the previous meeting we proceeded to the business of the day. We had a good report of clinical cases, and the discussion of the same were freely entered into. No essayist being ready with papers, that part of the program was dispensed with, and business of a personal character was taken up and settled. We then adjourned.

W. A. McKENNEY, Secretary.

Russell—The Russell County Medical Society met in Holt Hotel, July 12, 1913, at 9 A. M.

The meeting was called to order by the president, L. D. Hammond, with the following physicians present: J. B. Tarter, W. G. D. Flanagan, and L. D. Hammond.

W. G. D. Flanagan read a paper on "Fractures and Dislocation of Elbow," which was discussed by L. D. Hammond and J. F. Tarter.

L. D. Hammond read a paper on "Care and Management of Placenta Previa," which was discussed by W. G. D. Flanagan and J. B. Tarter.

The remainder of the time was spent in discussing "Hookworm," and case reports.

Adjourned to meet October 18, 1913.

J. B. TARTER, Secretary.

The Central Kentucky Medical Society—The Central Kentucky Medical Society, composed of the counties of Lincoln, Garrard, Boyle and Mercer, met at the Elk's Club, Danville, January 10th, 1913, with Dr. Cowan Jr., in the Chair, the permanent secretary-treasurer, J .Tom Price being unavoidably absent, the stupendous Dr. Griffith was made secretary pro tem cum dignitate and adorned this office with ability and picturesqueness and abbreviated the notes according to his physical statue and mental acumen.

Fayette Dunlap, essayist, presented a general dissertation on "Fractures," replete with surgic aphorisms to the delight and high appreciation of his audience.

B. F. Vanmeter, of Lexington, our guest, gave a learned and most interesting lecture on the "Open Treatment of Fractures," with the Lane fixation bone splints, etcetera, etcetera, his discourse was highly entertaining and was discussed andfreely as was Dr. Dunlap's paper, by all the physicians present.

The other pleasures of the day were the intellectual feast as well as that given by Dr. Rice Cowan were most enjoyable. The feast was equal to the best that a Delmonico could prepare—our thirst and excess of caloric or physical frigidity with a rising thermometer as we contemplated our long drives to and from this august meeting were appeased by the contents of thermo bottles containing the most temperate "quenchers."

William B. O'Bannon, of Stanford, was unanimously elected president for the year 1913.

Tilden Cleveland Singleton, of McKinney, was made essayist for the April meeting at Danville; subject, "Inflammation of the Kidneys in Toto," or in segmentation, according to the pleasure of the essayist.

The earnest, purest and most notable and scientific practitioners and surgeons of the rural districts were there to tell the absentees of the glorious occasion the latter missed.

The society adjourned at 3 P. M., to meet in Danville, the third Thursday in April, at 10 A. M. when State Registrar of Vital Statistics, Dr. Heizer, will give a medico-public address on parasites and micro-organisms, illustrated with magic lantern views and discoursed eloquently and learnedly and copiously on the causation and prevention of communicable infectious and contagious diseases. So mote it be, Selah!

By the way, Dr. Heizer's personality, entertaining and instructive talks have been of great benefit to the public and profession and he has maintained the high esteem of the profession and public in behalf of the Kentucky State Board of Health.

JACOBIEM.

The Central Kentucky Medical Society—The Central Kentucky Medical Society which has been so illustrious for growing successful and distinguished physicians and noble men again convened with W. B. O'Bannon, filling the chair, full measure and running over, and the gifted secretary present J. Tom Price, thoroughly aseptic and up-to-date, dressed in becoming style and a great examplar in still science, a noble practician and an apostle of pure and undefiled ethics, read the minutes compiled by the adugust Dr. Griffin, "multum in pervo" or rather "multiem in multo," the essayist, Dr. Singleton, beilng "non est" on account of urgent professional engagements was continued until the next meeting in July when the society will convene in Stanford, the third Thursday, the 17th, at 10 A. M.

F. H. Montgomery reported an interesting case of "Meckles Diverticulum," which was removed and prompt recovery of the patient.

Other interesting and instructive cases were presented and discussed.

The society then adjourned to the opera house to listen to the public address given by the gifted, erudite and accomplished bacteriologist of the Kentucky State Board of Health Dr. Lillian H. South. The auditorium and galleries were filled, even standing room was at a premium. The audience was held spell-bound, the eloquent lecture was a benefaction; a thing of beauty and a joy forever; and more gospel was preached in Danville by Dr. South in this good hour, than has been delivered since St. Paul stoon on Mars Hill at Athens, Greece and preached the famous sermon to the Athenians on the "Unknown God".

To-day the Danvillians no longer see through a glass darkly, but, saw the knowledge and power of sanitation and prevention of diseases, face to face and after the lecture this expression was heard ''merabile dictri; merabile dectri;'' others said ''eureka! eureka '' So charming was the speaker the eloquent and earnest discourse, that time passed rapidly and the voluminous lecture seemed of only a few minutes duration. Everybody was loath to leave and spoke in the most praiseworthy terms of the great Dr. Lillian South, and the practitioners who are familiar with bacteriology and able to judge scientifically along this line knew long ago that the Kentucky State Board of Health made no mistake when Dr. South was made chief of this department.

The next meeting of the Central Kentucky Medical Society will be held in Stanford, July 17th, third Thursday, at 10 A. M., when Dr. South will discourse on similar and allied themes to a public audience. Everybody is invited, professionally and publicly—all classes, all nationalities. We hope to see not less than 2,000 people in the audience. ''Quod demonstratdum erat.''

SCHIBO SCRIBENDUM.

BOOK REVIEWS

Diseases of Women, Medical and Surgical Gynecology—By Chas. A. L. Reed, A. M. F. C. S. M. D., fellow of the College of Surgeons of America, Professor in the University of Cincinnati, Gynecologic Surgeon to the Cincinnati Hospital, etc. The 448 illustrations in the texts, published by D. Appleton & Company, New York and London, differ from any books of the kind this book aims at—utility and practicability. Such an accurate knowledge of pathology is given to the student and explicit directions as to the remedial measures to be employed that conservative, constructive surgery comes naturally. The illustrations really illustrate and the descriptions describe. The Author's wide experience as a teacher and clinician peculiarly fits him to produce this sort of a practical life-saving text.

International Clinics—Volume 2, Twenty-third Series, 1913, J. B. Lippincott & Company, publishers, Philadelphia and London. Price $2.00.

This volume is if anything, superior to the average of the series. The illustrations are excellent and there are a number of articles by authors of undoubted ability. Among others are ones on the ''Treatment of Pneumonia'' by Gwyn, ''Diagnosis and Treatment of Gastric and Duodenal Ulcers,'' by Boardman and Reed, ''Hypochlorhydria and Its Treatment,'' ''Gastro-Intestinal Toxemia; Its Causes and Treatment;'' with a criticism of ''Intestinal Stasis'' by Peter Daniel (England), ''The Use of Camphorated Oil in Surgery,'' ''Suppurative Pylephlebitis'' and ''Rape in Children and in Young Girls.''

Diet in Health and Disease—By Julius Friedenwald, M. D., Professor of Gastro-Enterology in the College of Physicians and Surgeons, Baltimore; and John Rurah M. D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Fourth Edition, thoroughly revised and enlarged. Octavo of 857 pages. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $4.00; Half Morocco, $5.50 net.

This book is commended to the medical profession as a practical one in the much discussed field of dietics. From the labyrinth of chemical considerations and discussions, theoretical notions of the action of food in the physiological and pathological states of the body, there have been selected the things that are practical and of real value to know in the proper management of feeding the sick. First, there is given in a simple way the knowledge of food and their uses and actions. This knowledge is then applied in the care and feeding of the sick in such a rational way that will appeal to the general practitioner, the student and the laboratory man.

Marriage and Genetics—Laws of human breeding and applied eugenics, by Chas. A. L. Reed, M. D. F. C. S., fellow of the College of Surgeons of America, member and former President of the American Medical Association, professor in the University of Cincinnati. Galton Press, publishers, Cincinnati, Ohio. This is one of the most readable books which it has been our privilege to possess. Written in Dr. Reed's inimitable style, he gives us the fundamental principles underlying the process of selection and mating of human beings. The subjects of heredity, inheritance, character units, growth in re-production, food and fecundity applied eugenics and the social diseases are treated in an authortative and highly interesting way.

The Practical Medicine Series—Volue 6, 1913. General Medicine edited by Frank Billings and J. H. Salisbury. The Year Book, publishers, Chicago. This volume contains articles on tuberculosis, pneumonia, typhus fever, asthma, diseases of the heart, Hodgkins' diseases, leukemia, pernicious aenemia, article son some of the diseases of the ductless glands, diseases of metabolism and urine and iseases of the kidneys. It is up to the high standard of this series.

Essentials of Prescription Writing—By Cary Eggleston, M. D. Instructor in Pharmacology, Cornell University Medical College, New York City. 32 mo. of 115 pages W. B. Saunders Company, 1913. Cloth, $1.00 net.

JEFFERSON COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. XI. No. 23 NOVEMBER 15, 1913 $2.00 YEARLY

ORIGINAL ARTICLES

DEMENTIA PRAECOX.

By T. J. CRICE, Louisville.

I will attempt to bring this subject before you this evening, with more or less hesitancy. First, because I was unable to bring one of these patients before this society, and in the second place, I find the literature rather obscure, on this particular form of psychosis.

Dementia praecox is a general name given to several forms of constitutional psychosis, which appear usually before adolescence is complete.

It is characterized by progressive psychic exhaustion and a tendency to dementia. While in its course there develops mental excitement, motor disorders and delusions and stuporous states. It runs a long course with remissions, and it is usually three or more years before decided dementia occurs. Rarely the progress is arrested and a cure tkes place.

We have three types of dementia praecox. They are as follows: simple or hebephrenic, katatonic, and paranoid.

Etiology: Dementia praecox is a disease preeminently of the developed mental period of life.

Age: Most cases occur before the age of 25. From my own observation, I believe the most dangerous period is from 12 to 21 years of age.

Strange to say, in one-half of these cases, there is no history of insanity in the antecedents.

Direct heredity is not very often according to some of our best authors.

No doubt, this disease is due to a congenital or inherited defect of some kind. The two sexes are about equally affected. These patients are often as children rather intelligent, and apparently well developed physically. But though they have stood well in school or college, they will sometimes confess that it was always hard work. The exciting causes may be from serious attacks of childrens' diseases. Rapid growth, exhausting study, overexertion in athletics, fright, shock, emotional excesses, child-birth with exhausting sequelae.

THE HEBEPHRENIC TYPE.

Symptoms: The disease usually begins with a prodromal period of one or two years, characterized by a neurasthenic hypochondriacal and often querulent and irritable condition. (I am considering under symptoms all three forms of dementia praecox). Then there is a period of more or less acute mental disturbance, followed by a period of remission, or of permanent dementia.

The hebephrenic type is a more quiet form. However, there is no sharp distinction between it and the other forms of dementia praecox. These patients began in the early stages to show a lack of interest in work or study. He fails to finish his task, unpunctual and careless at his work. He loses his activity and liveliness of spirit and without being actually melancholy shows evidence of worry, due perhaps to a consciousness that he is not mentally himself. He may become brooding and irritable, suspicious, and suddenly break out in an unreasonable gust of passion. He gets listless and neglectful. If at school or some regular work, gives up and stays at home. He no longer reads his books or takes interest in former amusements. He complains of some headache or head pressure, and sleeps poorly. This condition may go for six months or a year or even two years. The symptoms being interpreted as neurasthenia. Then some delusions or obsessions generally of a persecutory kind develop. He thinks people are watching him or working against him or that he has made some serious mistake in life. He becomes careless of his dress and person and breaks out at times in silly laughter, makes curious gestures or bodily movements (tics). Sometimes these patients run away from home, and walk aimlessly for miles till exhausted. After a few months or a year they may improve and get, for a year or two, nearly well, only to return to his former condition, which then progresses till he gets into a state of comparative dementia. The mind at this time becomes filled with delusions, and hallucinations. The patient will sit all day rocking in a chair or staring at the walls, muttering or laughing. At times there are again outbreaks of violence. The sense of orientation is bad. They recognize only those known intimately. The reflexes are exaggerated. Pupils usually dilated. Sensibility to pain is lessened and there may be vasomotor disturbances, cyanosis, local odema. It is possible that an autotoxaemia is an important factor in the development of these symptoms, especially of the acute type. The final stage of partial or complete dementia may last three years, about 75 per cent. become absolutely demented, and 8 to 10 per cent. get well.

DIAGNOSIS.

The diagnosis is based on the age of the patient. Practically all cases develop before the age of twenty-five. The presence of a period of neurasthenia and hypochondria, on the development of delusions with the same time of mental weakness, slowness of psychomotor response, loss of initiative and of capacity to do work. Occasionally violent explosions of mania with hallucination concerning the body, tendency to impulsive acts, self mutilation, violent masturbation and sterotyped movements.

PROGNOSIS.

The prognosis is unfavorable. These patients usually have a remission and may get partially well and remain slightly demented and delusional for years. More often he gets seriously demented and remains so indefinitely.

TREATMENT.

Unfortunately, it is not encouraging. Children of psychopathic families should be brought up with special care, to prevent overstrain in their educational and personal life. They should be taught order and self control, regularity of habits, with abundance of sleep and freedom from alcohol and tobacco, fattening and non-nitrogenous food is best for them. They must, until mature, be kept on rather a low mental plane. Exciting experiences and competition, should be avoided. Rest and out-of-door life seems to do some good. Attention should be paid to the possibility of an autotoxemia. Arsenic sometimes seems to do some good, when the attacks become serious and the duration of the disease is extensive, the best thing seems to be institutional life.

DISCUSSION.

W. E. Gardner:. I have enjoyed Dr. Crice's paper very much, and am satisfied that it is made up, largely, from personal experience, as well as from a careful study of the literature on this subject.

The only point I would care to call attention to, is the differential diagnosis in the three distinct forms of dementia praecox.

The hebephrenic, or simple type, may be confounded with defective mental development. In differentiating between these conditions we should remember that defective mental development manifests itself early in life, whereas dementia praecox may occur at any time up to the twenty-fifth year, and does not usually occur earlier than fourteen. In dementia praecox the child may get along well in school up to a certain point and then manifest symptoms of the disease, while defective mental development becomes apparent early in childhood.

The kathatonic form of dementia praecox is, I think, often confused with melancholia. I know that when I first began to observe these cases, I often mistook them for melancholia. It is to be noted, however, that there is a marked loss of mental power, with indifference and emotional weakness in these cases, while in melancholia there is anxiety and restlessness, with delusions of sin, the higher mental faculties being pretty well preserved.

The paranoid form is sometimes mistaken for true paranoia, when there are delusions of persecution, but the exaggeration of the ego is not so well marked, and the delusions are not systemized, as in true paranoia. There is, always, present, too, the evidences of mental weakness in this form, as in the other two, while in paranoia the perception, memory and orientation are all good.

Now, as to the prognosis in these cases, the experience of most authors shows that from six to ten per cent. of patients will recover: and our own statistics show, approximately, that percentage of recoveries. Personally, however, I do not believe that recovery will take place in that large a proportion of cases of true dementia praecox. I believe that cases of the intoxication psychoses, including auto-intoxication, drug intoxication, alcoholism, etc., are often mistaken for the simple, or nebephrenic, form of dementia praecox, but these usually clear up, rapidly, after a thorough course of eliminative treatment, and have, no doubt, influenced the statistics of dementia praecox, causing the percentage of recoveries to run higher than if a strict accounting had been made.

Curran Pope: I have listened to this paper with a great deal of interest, and I trust that anything I may have to say from my own personal experience may be construed as an extension, rather than as a criticism of the essay.

In this paper the subject is viewed from the standpoint of the collection, tabulation and association of symptoms—the study of the objective symptoms presented by the patient. This is simply an external view of the situation, and does not represent an endeavor to push beyond this point and arrive at a true understanding of the psychological factors that underly the various psychoses. What is the mental mechanism that underlies the entire symptomatology presented by a patient suffering with dementia praecox? What governs the particular symptom? What governs the particular retraction of ego within the patient?

In order to understand this thoroughly, we must pause and consider the theory brought forward by Janet, of Paris, what he calls the function of reality. Every sane individual of the average type re-acts to his or her environment—to reality—in a certain way; in other words, the individual reacts upon the basis of reality as it occurs in daily life. On the other hand, a patient suffering with dementia praecox does not react to reality, but, as Freud has so beautifully expressed it, takes a flight into unreality. Any one who is familiar with the epoch-making work of the Zurich school headed by C. G. Jung, and ably aided by others of that school, is aware that Jung has established the fact that, underlying dementia praecox and the symptomatology of the disease, is a complex governing the psychic life of the individual. Some times ago I presented to this society a paper on the subject of hyst ria, in which I endeavored to deal with this phase of the problem. There are recognized by the Frieudian school, three levels of consciousness. First, the upper level, or the state of awareness. Then the level of subconsciousness, or as they term it, fore-consciousness, in which the individual can call to memory ideas that have been stored up. Finally, the level of the unconscious. It is in the neuroses, psycho-neuroses, dementia praecox, paranois and other diseases of that type, that we have, lying deep in the unconscious, complexes, or groups of ideas, tinged by emotional states, and it is these groups of ideas, deep in the unconscious life of the individual, that determine the particular reaction in a case of dementia praecox. Whether as Cary Jung believes, we have to deal primarily with a toxic condition, impairing the cerebral resistance and enabling these complexes to gain the ascendencey, we are not as yet prepared to say, but we do know that, instead of living in the conscious state of awareness and reality, these individuals turn their ego in upon themselves, so that their lives are governed by complexes deep in their unconsciousness, directing every move. You and I may flatter ourselves that we exercise rational judgment in every selection we make, but the fact remains that we are all more or less controlled by unconscious ideas and emotions, an evidence of which lies in the statement, frequently heard, "that this or that man rubs us the wrong way; why, we do not know." We do not know why because there is a complex hidden in our unconsciousness that is disagreeable to us, which produces a reaction and causes us to feel averse to the particular individual. In dementia praecox, the individual cannot adapt himself to his surroundings, to reality, because he is controlled by a group of ideas of which he is unconscious or subconscious. Directed by the group of ideas in his unconsciousness, he constructs in his imagination a coherent, logical story, which so occupies his attention that his ego is turned entirely in upon himself; in other words, he is so busy attending to the complex within his inner consciousness that he has no outer consciousness to perform the functions of reality; he is turned in upon himself just as the petals of the night-flower turn in upon itself during the day. Later, when he attempts to deal with reality he finds himself unable to cope with it, because he has lost his ability to understand reality; the complexes within him absorb all of his brain activity, and he retires within himself, as it were, and lives in a world of his own creation.

I have had the pleasure of personally meeting Dr. Jung and seeing some of his work when in this country. I know of no more earnest, scientific man than he, and to my mind his explanation of the symptoms of dementia praecox is absolutely irrefutable, and any one who will carefully study the scientific bases upon which he works, will agree with him.

There is one point to which I should like to call the attention of the essayist. In one part of his paper he uses the words, "the cure takes place." I am thoroughly in accord with Dr. Gardner in this respect; I do not lebieve that cure, in the proper interpretation of the word, takes place in dementia praecox. I do believe that a remission takes place and sometimes it seems to be permanent.

What is the best treatment for the dementia praecox patient? Undoubtedly, it is the lifting up of the contaminating complexes from the unconscious, bringing them to the surface and making the patient acquainted with the complexes that are governing him; trying to educate him by giving him a knowledge of his weakness and teaching him, as far as possible, the demands of reality in his daily life.

In the past three years I have had six cases of dementia praecox and have psycho-analyzed every one of them. In two I have had most excellent results; ordinarily they would be termed well, but I do not know. Two years is not long enough to enable one to make a positive statement. A third cases is very much better. In one I had no success at all. The other two I have under treatment, with approximately 50 per cent. improvement so far. While the saying that "three swallows do not constitute Spring" is applicable here, still I think the results obtained in these cases justify the statement that the treatment holds out the greatest promise for these patients, particularly if we get them while they are young. In a patient, say from thirteen to seventeen years of age, we can supplement psychic measures by the use of the Montessori method of education, which has been of great benefit in younger cases. This, in conjunction with psycho-analytic work, striving to find the complex governing the manifestations of dementia praecox, and, of course, remedying, if possible, any physical defect from which the patient may be suffering, constitute the most rational treatment of these cases.

And again I say—as I have said on so many occasions until it is becoming stale, flat and unprofitable—the great Commonwealth of Kentucky is not doing its duty; it is not doing what it should do for these unfortunate individuals. The appropriation made by the State for their benefit is miserably small; the men at the head of its institutions are handicapped by a lack of funds, by a lack of help, by a lack of every thing that should be provided to enable them to do what should and can be done for these poor unfortunate cases. The State should provide and maintain a psychopathic hospital, with capable men at its head, with adequate facilities for subjecting these and other similar cases to careful psychopathic study by all the known psychological methods. If Kentucky had such an institution I do not doubt for a moment that, by the end of a decade, it would save many hundreds of thousands of dollars to the State, by relieving acute psychoses and curing a great many of these and other cases, and saving them from the miserable lives they lead behind hospital walls after they become purely institutional and custodial cases.

Milton Board: I want to call attention to alcoholism as a causative factor in the production of this condition. While discussing this subject with Dr. Crice at my home a few days ago, reference to my case book, which has been kept for five years or a little longer, showed 46 cases that I had classified as dementia praecox, and of that number, eighteen gave a very positive history of alcoholic indulgence in the father.

In regard to treatment, I agree with Dr. Gardner and Dr. Pope that the number of cases of dementia praecox that are cured is certainly very small. Most authorities, I believe, put it at 8 per cent. One thing is certain. If we can get hold of these patents in time, we can do much to arrest the condition by educating the patients and the patient's family. I know of no more pitiful condition, than to see a bright boy or girl, who has made at least a creditable showing in school, and sometimes, indeed, has been precocious, to be suddenly stricken down, their usefulness impaired if not permanently destroyed, and we have to stand by and say we can do nothing. We can do a great deal in the way of educating the patient to lead a clean physical life, and in educating the patient's family along the same lines.

I recall two cases in particular, one a beautiful young woman and the other a young man, who have been under my care, one eighteen months and the other twelve months, in which I have not the slightest doubt that the diagnoses were correct. These patients both appear to be well at this time, but I am inclined to doubt that they are well. They have been taught how to live and the families have been taught how to teach them to live, and they are leading fairly comfortable happy lives. We can do at least this much in every case, and we ought to do it.

T. J. Crice, (Closing): I wish to thank the gentlemen for their kindness in discussing the paper. I was expecting some criticism when I saw Dr. Pope come in, but I wish to thank him for his very nice remarks, and also Dr. Gardner. Like Dr. Board, I believe that we get more benefit from educating these patients early in life than any other character of treatment. We often see children four or five years of age that are uncontrollable; the parents cannot keep them at school, in fact, cannot do anything with them. These patients go on from bad to worse and are usually the cases in which we find dementia praecox developing upon arrival at the age when they should begin to take up the responsibilities of life.

Edema of Extremities.—Treatment.—Where edema of legs resisted all measures, especially where incision not permitted, good results obtained from local use of hypertonic saline solutions—25 to 50 Gm. (3-4 to 1 1-2 ounces) of sodium chloride to 1 liter (quart) of distilled water. Soak gauze compresses lightly in this, wrap around legs, and cover with thick layer of absorbent cotton, held in place by bandages. Leave dressing on over-night. Equally good results in edemas due to broken compensation, Bright's disease, etc.—Pathoult.

SOME EXPERIENCES WITH SALVARSAN IN DIFFERENT PHASES OF SYPHILIS.

By I. N. Bloom, Louisville.

PROFESSOR. DERMATOLOGY, SYPHILIS AND GENITO-URINATY DISEASES, UNIVERSITY OF LOU-SVILLE, MEDICAL DEPARTMENT.

This paper is a clinical paper and will not deal with abstruce questions connected with laboratory work.

I had the honor of reading a paper before this society just three years ago, in which I translated the result of Wechselman's and Hatas' first experiences with salvarsan. Since then I have used it nearly four hundred times in hospital and private practice, and, I am selecting cases that illustrate its use in the different phases of syphilis as they are presented to the practitioner.

Case No. I. Young man twenty-one years old consulted me on the 21st of November, 1912. He asked for an examination after giving the following personal history. He had been having coitus with a prostitute to whom I had given a salvarsan-intramuscular injection a week before. This eighteen year old prostitute had condylomata of the vulvar region and mucous patches on tongue and fauces, and, her syphilis was about six months old. Aside from intercourse with her he had had no exposure for six months. A thorough examination on this day and three days later showed no signs of infection. On November 28th, however, he presented himself for the third time with an indurated coffee bean size lesion involving one lip of the meatus on the right side; palpable gland on the corresponding inguinal region. No microscopic examination was made. Diagnosis, lues, primary lesion.

The 1st of December an intravenous neosalvarsan injection was given, 90 centigrams. Patient was kept under observation ten hours. Six hours after injection patient had some nausea but this passed off in an hour or two and patient got up and left the office after ten hours feeling all right. Four days after, only the faintest trace of the local lesion visible. He was put on mercurial treatment by the mouth and kept on it six weeks, then received an intramuscular injection of salicylate of mercury per week for six weeks, after which we returned to the internal administration of the drug. Patient was seen at least once a week until the middle of August. The initial lesion disappeared in three or four days and the enlarged inguinal lymphatic grew less in size and in induration. No secondaries were observed of any kind and the patient is off treatment preliminary to a Wasserman test which will be made the middle of October.

This is the only case that has come under my observation in which I have reason to think the disease cured and the patient susceptible to a reinfection. The Wasserman test will determine the certainty of this.

Case II. (Hospital case). Was referred to me April, 1913, as a private patient. Boy eighteen years old, good habits and character. Had never had coitus. Initial lesion center of upper lip, hard, indurated, projecting, so much so that a profile view made it very striking. Enlarged cervical and submental glands. Duration of initial lesion four weeks. Nature of lesion not previously suspected. No eruption on body. Exhibited before Senior Class University of Louisville Medical Department. Next day 90 centigrams salvarsan given intravenously. Boy exhibited again to class five days later with entire disappearance of the local lesion. Cervical and submental glands palpable but smaller. I regret to say, that, in spite of his promise, he stayed in the hospital but one day, never came back to see me.

Case III. Patient referred to me March, 1911. One of my early cases. Large Hunterian chancre size of a nickel, elevated, smooth, hard, just behind sulcus coronarius on the right side. Had been there four weeks or more. I confirmed the diagnosis and on the 23rd day of March administered an intramuscular 60 centigram dose of salvarsan. I should state, that for two days before the administration of the salvarsan a few macules appeared on the chest, back and forehead. There was also a general adenitis. Injection was given at two o'clock and four hours later the macular syphilide had disappeared. Local lesion was in process of involution in twenty-four hours and in a week was not to be seen. The family physician and the patient requested that no other treatment be used; this is the only case in all I have had in which no specifics followed the use of the salvarsan. I saw the patient three or four times a week, and he did well until the middle of May when there developed an adenitis in the occipial region both sides very marked, followed in a few days by mucous patches on the tongue.

On the 31st of May I began treatment with intramuscular injections of salicylate of mercury followed by proto. iodide, repeating after a number of weeks the salicylate injections. This patient persisted in smoking and had almost continuously mucous patches on the tongue and inside of cheeks. He also developed on the right gluteus maximus, about the center, a patch of lichen ruber planus about the size of a silver dollar, with a similar patch half the size two inches higher up.

In September 1912, the mucous patches persisting and involving a deeper surface, I gave this patient 90 centigrams of neosalvarsan intravenously, keeping him in bed and under close observation ten hours. He suffered no inconvenience whatsoever, nor, was there any change in pulse rate noticeable; no nausea; no rigor. Patient contrasted this euphoria with the pain of the first intramuscular injection eighteen months before. Mucous patches grew better after this injection and the patient was continued on mercurial treatment. In December he was given a second intravenous injection of the same size as the first, which was bórne without inconvenience; he has been kept on some form of mercurial treatment varied with the iodides ever since. The lichen ruber planus was not influenced by the first intravenous injection of the neosalvarsan but disappeared rapidly after the second intravenous injection.

This patient is still under treatment but without any leutic symptoms. I see him at least once a week and he is being prepared for his first Wasserman test.

Case IV. Referred to me by his family physician June, 1913. Young man twenty years old. Indurated ulcerated lesion of glans penis, six weeks duration. Body covered with a macular eruption with here and there a few large papules. Eruption general and symmetrical. Ninety centigrams neosalvarsan administered at 8:30 A. M. Ten thirty, patient restless, feverish, pulse 110. At twelve o'clock eruption intensely red, the macules elevated, glistening, almost confluent pulse varying from 110 to 125; two or three slight rigors. Patient very uncomfortable, headache, general malaise. Gradually this typical Herxheimer reaction disappeared; the turgescence, if I may use the term, and the macules grew less noticeable and the intense hyperaemia paled off; the rapid pulse subsided and at four o'clock the patient was without subjective or objective symptoms except as to the existing roseola, which was even paler than it had been before the injection. At six o'clock the patient returned to his home in Indiana, with his physician. Since then I have seen him two or three times with his physician. He exhibits no external evidence of the disease. He is taking proto. iodide of mercury under the care of his physician, who pushes the dosage to the limit. I saw him this day, there were no visible evidences of his syphilis.

Case V. April, 1911. Local lesion August, 1910. First secondary late in September, 1910. Put on proto. iodide by his family physician and kept on it until I first saw him in April, 1911. Three weeks previous had developed discrete papules on back, chest and forehead. Lenticular, unusually large, elevated; cervical and inguinal adenitis; no mucous patches. Salvarsan 60 centigrams administered intramuscularly. Patient kept in bed a week, suffering great pain. May, 1911, until May 1913 intramuscular injections of salicylate of mercury inunctions and hydrargyrum cum creta. In May iodides of potash preliminary to Wasserman. July, 1912, Wasserman negative. From April, period succeeding the intramuscular salvarsan to the negative Wasserman no symptoms of syphilis observed. Patient now abroad, will return in October.

Case VI. and VIa. This case was a case first of a young moulder who came with a phimosis which followed a chancre of the glans penis and which could be plainly palpated. It had existed five or six weeks and a papular syphilide was on at his first visit in June, 1912. A week after he received an intravenous neosalvarsan of 90 centigrams, followed by intramuscular salicylate of mercury. One week after this injection he brought his sweetheart, a woman of thirty, with a florid maculo-papular syphilide. She received 75 centigrams of neosalvarsan intravenously. There was no reaction to the injection in either case. In a week, which was the time intervening between the injection and her second visit, the eruption had completely disappeared. I see both of them regularly, and the woman is on proto. iodide and the man as stated, and, neither has exhibited symptoms of the disease in the more than a year that has elapsed.

Case VII. Male 25 years old. Is an interesting case belonging in the late secondary period and sent to me by his family physician. Had a local lesion late in 1911 followed by consecutive roseola. Treated by his family physican for over a year with mercurial injections and mercury per orem. In the summer of 1912 he developed a nummular psoriasis of the trunk and arms. The diagnosis was concurred in by the family physician but the patient was convinced that he was syphilitic. In November, 1912, he received neosalvarsan intramuscularly, full dose. The psoriasis was uninfluenced by it. This patient died of intercurrent disease August, 1913.

Case VIII. (Hospital patient.) Negro about thirty years old. Seven months after infection he developed a precocious gumma on the left tibia involving an area of three inches by two inches. There was bone exfoliation and a sequestrum an inch wide, two and a half inches long and a quarter of an inch thick was thrown off. One intramuscular injection of neosalvarsan, full dose, aided in the rapid healing. He was given internally proto.

iodide to the limit during his hospital stay.

Case IX. Prostitute. Private practice. Infected several years ago; very deep cicatricial lesions of ulcero-cutaneous type with active lesion of the same kind on upper and lower arm back and side; these looked like extensive burns. Had been treated intermittently with the usual specifics, without result, by excellent physician. Patient was a spree drinker. After a week's preparation she was given in August, 1911, 45 centigrams of salvarsan intramuscularly. The effect was magical. In a week's time the crust fell from a serpiginous syphilide and in two weeks these differed only in color from the cicatricies of the old syphilis.

Case X. Man of forty-five. An unusually interesting case on account of the precocity of the symptoms. He was sent from a neighboring state by his family physician in September 1910, to confirm the diagnosis already made by stated family physician. He had a chancre of the gums below and in front of the first molar tooth of the upper jaw, left side, and a beginning maculo papular eruption of the body. A year afterwards in September, 1911, I was sent for and found him in the following condition. Headaches extreme with vigil amounting to almost absolute sleeplessness for three weeks preceding. He walked the floor all night on account of pain which could not be controlled by opiates or other means. Had neglected treatment before the cephalalgia came on. Persistent pain not controlled by mercury or iodides. Seven or eight months after the appearance of the chancre, there had developed unusually large cervical glands, very low down, an inch of two above the internal clavicular articulation. These were extirpated by a local surgeon. The pains in his head were so severe that the patient refused to go to the local infirmary the night before through fear of disturbing the other patients by his pacing the floor and his groans. This was the only case I have had up to date in which it became necessary to cut down upon the vein in order to give the injection. Four or five punctures with the Scheiber needle failed to secure entrance into the lumen of the vein and the patient's condition was such that we thought best to enter it after cutting down on it. The head pains ceased by night and on my return consultation visit, four days after, patient met me at the doctor's office a distance of half a mile from his residence. His cephalagia had disappeared entirely and he said he felt as well as he ever did. Advised mercury which I understand was taken only for a month of two. Patient is a very hard drinker and, I hear, has had a hemiplegic attack since.

Case XI. Patient thirty years old; married seven years. Syphilis precedes marriage by at least three years with two years of mercury per orem. Marriage childless. Wife in fair condition, exhibits no evidence of infection. For two years papillomatous growths covering soft palate like fig seeds. Intravenous injection 90 centigrams neosalvarsan October, 1912, at 8:30 A. M. Decided reaction to injection, severe nausea and vomiting, rapid pulse. Patient taken home in automobile at 8 o'clock in the evening, twelve hours after the injection. Next morning felt all right; in four days soft palate was clear and smooth. Placed on proto. iodide which patient has been taking ever since. Will receive a second intravenous injection next month. No Wasserman made on account of expense. Will have Wasserman of wife and husband made at end of the year.

Case XII. Contracted syphilis five years ago; treated most excellently by a specialist, who three years ago gave him a divided intramuscular salvarsan injection in the back muscle just below the scapulae. These injections became encysted and can be felt as hard lumps at the site of the injection, causing no inconvenience whatsoever. The one on the left side is as large as the last phalanx of the thumb and the one on the right about the size of an average marble. This patient had a papillomatous growth on the posterior half of the tongue similar to that of the preceding patient on the soft palate. The papillomata, however, were coarser and larger. He received an intravenous injection 90 centigrams neosalvarsan in November, 1912, and the second intravenous in February. After the first injection the tongue lesion cleared up very noticeably but not entirely. After the second there was a complete disappearance of the papillary growths but there remained a marked difference in the color of the tongue anteriorly and posteriorly the site of the papilloma being a deep red in contrast to the pale red of the rest of the tongue. This had not improved under mercury continued from the time of the first injection. Patient will receive a third intravenous injection on his return from the East in October.

Case XIII. Male, twenty-six years of age; disease contracted September, 1911, usual secondaries. Patient given intramuscular neosalvarsan injection April, 1912. Placed on mercury internally and by intramuscular injections of salicylate of mercury. In July 1912 developed optic neuritis of left eye. Drs. Ray and Lederman seen in consultation. Large doses of iodides given followed by improvement. Late in September the right eye became aeffcted. October, 1912, neosalvarsan

90 centigrams given. Slight nausea and vertigo six hours afterwards, passed off four hours later. Patient was able to go home on foot. Placed on iodides and intramuscular injections of salicylate of mercury. Iodide up to 600 grains daily. Optic neuritis disappeared rapidly and vision is now normal in right eye and 20-30 in left, with slightly restricted field. In December, 1912, the third dose of salvarsan was given him being the second intravenous injection of neosalvarsan 90 centigrams. Mercury was continued by the mouth and per injections until April, 1913, when he was given the iodides until June, when a Wasserman test was made. Test resulted in a plus minus.

Case XIV. Syphilis three and a half years ago. Treated by mercury internally by his family physician. Desires to marry. While taking mercury for months continuously was given a Wasserman test, which of course proved negative. After this, he consulted me for the first time. After this, he consulted me for lis. Was taken off mercury in April, placed on the iodides for six weeks. Two weeks after a Wasserman showed plus minus. Intravenous neosalvarsan at end of May, 90 centigrams. Rapid pulse "bursting headaches," slight nausea and vomiting. Patient able to walk home after ten hours. Next day appeared with a jaundice, which fortunately disappeared in thirty-six hours. Patient has been given sixteen intramuscular injections in two series of eight with mercury by the mouth between them. Wasserman will be made again in November or December and his fitness for marriage will be determined. All visible signs of syphilis absent.

Case XV. Male, forty-eight years old. Confirmed, as consultant, the diagnosis of syphilis with initial lesion six years ago. Treated mainly by family physician with mercury by the mouth and one course of treatment at Hot Springs. In April, 1911, parasthesia of legs and lumbo-sacral region; intense pain in calves and soles. No ataxic gait; pupils normal (Dabney); reflexes nearly normal. Advised salvarsan which was refused. Intramuscular injections and large doses of iodides. No improvement. Patient consulted, upon my advice, Dr. J. J. Putnam of Harvard and Dr. Thomas of Johns Hopkins. Diagnosis concurred in, focalized spinal sclerosis. Salvarsan advised. In October, 1912, first intravenous injection given 45 centigrams. No reaction to salvarsan. Four weeks later, second neosalvarsan of the same strength given intravenously. In December, 1912, the third neosalvarsan 90 centigrams given intravenously. Considerable improvement; no subjective symptoms and a gain of fifteen pounds noted, within two or three pounds of patient's maximum weight of fifteen years before. January, 1913, a fourth intravenous of 90 centigrams given just after a so-called "bilious attack" to which patient had been subject for many years. Four hours after the injection patient very much nauseated, vomiting freely for the next six hours, diarrhea uncontrollable, pulse 110 to 120, small and weak. Patient thoroughly conscious and claimed condition to be a continuation of his bilious attack which differed in no respect to former attacks to which he was subject. Was taken to his home twelve hours after administration of intravenous injection and the condition described continued for two week, after which patient regained strength and weight. Pains in soles of the feet continued but not so severe. Both sphincters are almost normal whereas before these injections they were decidedly paretic. Patient has had return of erectile power which had been absent for eighteen months.

The next case is one with whom Dr. Dugan is familiar. Before reporting the case I wish to show a photograph of the result of a plastic operation performed by Dr. Dugan upon the lip of this patient. I regret very much that I have not a picture of the boy before the operation. I wish also to call attention to the present condition of the nose. Dr. Dugan is now preparing him for a plastic operation on it. If the result is as beautiful as the operation on the lip, he can well be proud of it. There was a triangular gap in the lip (the result of congenital syphilis) which extended up to where the median nostril would be if it were there, but that is gone, together with the nasal bone, the nose there being soft and projecting forward, the gap being such as to extend almost to the lower teeth, and upward, exposing the gums and a projecting tooth which has since been pulled and a false tooth substituted.

This patient had been treated for syphilis in the old way by excellent physicians, for six or eight years. He had been treated for the condition of the nose and lip by a prominent nose and throat man, and the family physician is as good as any, but the disease had not yielded to this treatment, and the physician sent him to me a year ago last April. A Wasserman was unnecessary, as the nature of the condition was plainly evident. I administered neosalvarsan intramuscularly, and followed it with one, or possibly two, more injections before my class at the University. Between the first and second doses the boy gained twenty-four pounds. The ulceration, and the nasty secretion from the nose, had ceased entirely. The boy awoke from his apathetic mental condition to one of at least average mental activity for a boy of his age, fifteen. His sister was 19 years old, undeveloped, had never menstruated, and complained of nausea following any attempt at eating. She was emaciated and, if I remember correctly(as it was really Dr. Bronner's case) had some corneal lesion. I am not positive about the latter. She was sent to me and Dr. Bronner took charge of the case. He gave her an intramuscular injection of neosalvarsan, and followed it a little later by a second dose. This girl, in two months, matured fully, menstruation was established, gained 34 pounds and, although 19 years old, gained 1 1-2 inches in height. In the interim between July, 1912 and the present time, all stomachic symptoms have disappeared. Both patients were kept on proto-iodides, because it was impossible to have them come to receive salicylate of mercury. The girl has gone to a larger city than Louisville and has developed sufficient intelligence to be a noviate as a trained nurse.

Of all the wonders I have ever seen produced by any form of therapeutics, none has come under my observation that equals the results in inherited syphilis that neosalvarsan produced in this boy and girl.

DISCUSSION.

Leon L. Solomon: In citing so many cases, the essayist has given us a practical and convincing argument, as to the value of salvarsan, and particularly of the later product, neosalvarsan. My own experience with salvarsan has not been satisfactory. One feature of this report particularly impresses me. That is, the fact that the doctor has resorted to the second and third, and sometimes even the fourth dose of this agent.

In my opinion, the essayist is not justified in his conclusion, with particular reference to the one case reported, where he pronounces the patient cured. I think it is still entirely too early to consider this agent as curative, in as much as it is, at the most, but a few years old, whereas twenty-five or thirty or maybe more years must elapse before we can be justified in concluding that we have, in neosalvarsan, a positive cure for syphilis. I recall one case of syphilis, in the primary stage, that presented at the clinic of Max Joseph, in Berlin in 1895. Dr. Joseph's records showed that he had treated this same case fifteen years previously, then suffering with primary syphilis. Dr. Joseph referred to this patient as a case of syphilis, that had been cured by him, and reinfected.

However, if neosalvarsan does nothing more than quickly remove the vicious symptoms of syphilis; if it does nothing more than put the patient in a condition, in which he or she is not a danger and a menace to others, it is a valuable adjunct to our armamentarium. As one, who, in former years, taught therapeutics, I am delighted to hear Dr. Bloom, whose experience is large, state that he continues to make use of mercury, not only per orem, but also by hypodermatic injection, and that he also continues to make use of the iodides.

In a conversation with Dr. Laws of Hot Springs, some months ago, he told me, that many patients, who had received more or less salvarsan, and believed themselves cured, later came to Hot Springs for treatment. He said, that, in several cases, coming under his observation where salvarsan had been administered by the intramuscular route the agent, had been encysted, and could be readily removed. He was very positive in his belief, that intramuscular injection was not the proper method of administering "606", and that the only proper way was by intravenous injection.

I have very much enjoyed this splendid essay and feel that I have been greatly benefitted by it.

Henry J. Farbach: Dr. Bloom's report illustrates some of the beautiful results that can be obtained from arsenical preparations, and while their value in syphilis may not have been fully established, still I think the concensus of opinion among syphilographers of to-day is that the time, place and method of administration or arsenical preparations are perhaps more definite than they have heretofore been. I believe most authorities concede that arsenical preparations in themselvs will not cure the average case of syphilis. There are come cases on record, as Dr. Bloom has reported, where one or two injections, early in the course of the disease, have eradicated all evidence of it and no subsequent symptoms were manifested

Every man who does work along this line has his own method for administering salvarsan for what he considers indications for its use. Salvarsan is chiefly indicated, in my opinion, in the early stage of syphilis, when the main object is to eliminate the patient as a disease-carrier. I believe the administration of salvarsan or neosalvarsan at this time will place the patient in the so-called latent stage, in which he is unable to convey the disease to another. That is one of the great advantages of arsenical preparations over the old method of mercurial administration; they control the infection in the active circulation —and by "active" I mean the lymph circulation —a great deal more effectively than by mercurial administration.

In regard to the method of administration, we first gave it intravenously and then intramuscularly, and then we again returned to the intravenous method. The fact that the agent was so readily and rapidly eliminated when given intravenously, argued against that method, and for the intramuscular route. However, we have no method by which we can administer intramuscular medication and promise the patient little or no inconvenience from it. As a rule, it produces a great deal of inconvenience, covering a period of three or four days. Therefore, for the busy man and for the man who does not want to attract attention to his infection, I believe the intravenous injection is the most practical. I have been giving them at intervals of seven to ten days, in the early stages, until three or four injections have been administered. Two weeks later, after rest and eliminative treatment, I make a Wasserman. If it is negative, I start the patient on mercurial injections; if it is positive I put him on a series of injections of neosalvarsan.

One point Dr. Bloom brought out is the influence the arsenical preparation seems to have upon the ability of these patients to take mercury, and the effects of it. Most of them are able to take larger doses of mercury and get more benefit from it than before the injection of neosalvarsan.

I. A. Lederman: I wish to refer briefly to one case reported by the essayist and also to one or two others that have come under my observation.

The case mentioned by Dr. Bloom was one of pronounced optic neuritis, with considerable swelling of the nerve, approaching a condition of choked disc. I saw the patient after the condition had existed for some time in the left eye, which was the first one to become affected. How long it had existed no one could estimate. There was considerable swelling of the nerve and, although it promptly responded to treatment, it was followed by partial atrophy of the nerve. This accounts for the loss of vision which, however, is very slight. The development of a similar lesion in the other eye illustrates the importance of observing these cases frequently. At the time the trouble developed in the right eye the patient was under my observation, undergoing examination twice a week, so I am sure that the optic neuritis in the right eye could not have existed for longer than 72 hours before I discovered it. I had examined that eye a few days previously and found it perfectly normal. This eye also responded promptly to treatment, the sight being restored to normal.

I wish to refer briefly to the value of salvarsan in two other ocular conditions. One of these was a case (in Dr. Ray's practice) of gumma of the ciliary body, which is a condition that, so far as we know, has always ended in destruction of the eye; or, at least, shrinkage of the eye takes place to such an extent that the sight is permanently lost. In this case, however, the gumma dissolved so rapidly, under the administration of salvarsan, that the sight was only slightly impaired, and to our great surprise, vision was restored to practically normal. This was unique in the experience of both Dr. Ray and myself, and upon looking up the literature I could not find a case reported that ended so happily as did this one.

Another case, in my own practice, was one of gumma of the iris, which is also a condition that sometimes ends in destruction of the eye, although not so frequently as gumma of the ciliary body. Resolution of the gumma followed one injection of salvarsan, and the whole aspect of the case changed so that in a few weeks the prognosis from a grave one, became a favorable one, the patient making a very nice recovery.

Another case was one of cerebral syphilis, in which the patient was confined to bed and I was called to make the usual examination of the ocular structures. While the optic nerve was found to be congested, due to intracranial pressure, there was no inflammation or other evidence of involvement of the nerve. This patient also improved very rapidly under salvarsan, the mental condition clearing up, and in the course of ten days or two weeks, the congestion of the optic nerve disappeared. I understand that this man left the city and has since died of a recurrence. I do not know the details.

While it has been generally recognized that arsenical preparations will sometimes produce a toxic effect upon the acular structures, especially the optic nerve, I have had occasion to examine a few cases preliminary to salvarsan administration, and where the eye was normal I have never seen any bad results follow the injection. I am inclined to believe that in the presence of syphilis, with any ocular lesion, salvarsan, far from being contraindicated, is positively indicated.

A. C. L. Percefull: I understand that cases have been reported in which the patient, following the administration of neosalvarsan, developed general nervous symptoms. I would like to ask Dr. Bloom what has been his experience in this respect?

I. N. Bloom, (Closing): I wish to thank the gentlemen for their generous discussion of the paper.

Taking up the case Dr. Solomon mentioned, which I referred to as a cure and reinfection. Under the old method of treatment reinfections were extremely rare. I have been continuously connected with the hospital for twenty-five years, and for eighteen years I had large clinics at the University, not to mention some private practice, and I have seen but one case of reinfection. Therefore, I was astounded some time ago, when a practitioner in Louisville reported some dozens of cases of reinfection. I do not wish to cast any reflections upon that statement, but I merely repeat that, in my life, I have seen but one such case. That was a case in Prof. Neumann's clinic in Vienna. I happened to be present when a patient came in whom the records showed had been treated for syphilis with all its concomitants many years previously, and who had had a new infection. The reason that reinfections were so few was that the disease was not cured in the modern sense of the word. It is now claimed that, observation of patients treated under the old methods, after thirty or forty years, has shown that they were not cured. As opposed to that, the number of reinfections reported in the past four years exceeds the number reported during a hundred years previous to that time. This can have but one meaning; that is, that cases are cured by neosalvarsan, when given early, and then reinfection can readily take place. In the case reported in my paper, of the boy of 21 years, the disappearance of the chancre and the non-appearance of secondary manifestations after eight months, makes me believe and hope that the patient is cured, but this can only be proved after several Wassermanns have been made.

As to the method of administration, it would take too long to discuss this phase of the subject. Personally, I use my judgment, according to the aspect of the case and what I hope to accomplish. There are times when the rapid elimination which follows intravenous injection is undesirable, and in such cases I give it intramuscularly. There is no one who has read the literature on this subject, or who has had any experience with salvarsan, who has not been impressed by the fact that the most pronounced effect is obtained the earlier it is given, and I believe that in 90 per cent of cases where cures have resulted, investigation will show that the agent was administered upon the appearance of the initial lesion and before the secondaries had developed; in other words, in the primary condition.

Dr. Farbach discussed the mode of administration. I have seen three weeks of extreme suffering follow the injection of mercury intramuscularly. I recall a woman who came here from a town in Kentucky, who was laid up in bed for three weeks, whose suffering was very great, the pain extending down the legs similar to a severe sciatica, and who had retention of urine, following in intramuscular injection. On the other hand, I have seen patients who could not understand why they should be kept in the hospital twenty-four hours following such an injection. The gradation is extreme. Why this is I do not know. It is not dependent upon the condition of the patient. I have never seen an abscess and have never failed to secure absorption, following intramuscular injection of salvarsan. In my experience, intramuscular injections of salvarsan have not given rise to severe general symptoms.

Answering Dr. Percefull's question, I have read a great deal about nervous phenomena following the administration of neosalvarsan, but in all my cases I have not had a single one such as Finger describes. I know Finger well. He was second assistant in Neumann's Clinic when I was what was known as hospitant. He is a man of the deepest learning and has written the best book of his time on genito-urinary conditions. If he says he has seen such cases, he has. It may be due to the difference in temperament of natives of other countries, but there have been very few such cases reported in this county. I have not had a single case of nervous phenomena following these injections, nor have I had a case in which eye symptoms developed. It may be purely luck; I have no explanation to offer. I want to say this, however. I have flattered myself that I have been using freshly distilled and sterilized water in order to avoid accidents which Ehrlich and others have attributed to the growth of saphrophytic microorganisms in water that has not been freshly distilled and sterilized. A short time ago I ordered some freshly distilled, sterilized water, corked with a sterilized stopper and wrapped in sterilized gauze bandages, and came down to the office to perform an operation on a patient who changed his mind at the last moment; two days later when I unwrapped the bottle the fungi in it were so numerous that I took it to the laboratory where it had been prepared and remarked that it was a fine condition for the water to be in two days afterwards.

Referring to the case that Dr. Lederman, Dr. Ray, Dr. Bronner and myself saw in consultation, after the development of optic neuritis in the right eye, it was a question whether or not an intravenous injection of salvarsan should be given, and I do not believe that three of the gentlemen were very enthusiastic about giving it. However, I did give it, with the results reported. Nevertheless, I believe that an optic neuritis, or any kind of optic trouble that is not of syphilitic origin, should cause us to pause before giving salvarsan. That it may accelerate blindness is certain from the cases that have been reported.

Just one more case. Last February I was called to see a young man who had been under the care of on excellent specialist in this city, who had properly diagnosed the case as late syphilis, of 16 years standing, the disease having been contracted three years before he was married. This was a case of brain syphilis, which had been properly treated with inunctions and iodides from October through November, with great improvement by December, and then, for some unaccountable reason, possibly because of a misunderstanding, the specialist dropped out of the case, and through December and January, until the 12th of February, the patient was without treatment of any kind. By that time he had relapsed into a condition in which he hardly knew what was going on. He would sit at the piano and operate the player by the hour, and could not be induced to stop. He could not write a letter, his checks in payment of his monthly expenses were unintelligible, and his conversation was equally so. I began with intramuscular injections of salicylate of mercury and speedily brought on salivation, which caused me to discontinue this treatment temporarily and give him large doses of iodide, which was followed by great improvement. He continued to improve through the month of February and by the middle of March his condition was such that I thought I might risk some time in April, an injection of salvarsan under proper precautions. He wrote his March checks in full, intelligibly for the first time, and a specimen letter which he was induced to write to a friend and was given to me, was an extremely good one. I gave a prognosis that the man would make an excellent recovery. He died on the second day of April. On Sunday in the latter part of March he was stricken with an apoplectic attack and died on the following Friday.

It has occurred to me since, that if this attack had been delayed, I would probably have given him a dose of salvarsan, in which event no power on earth could have kept his family and others from believing that it had caused his death.

Just one more point. In cerebral syphilis, a Herxheimer reaction, such as in the case reported this evening, in a confined space, would intensify the danger. At any rate, we should hesitate long before giving a dose of salvarsan where there is a more or less acute lesion of the brain, for fear of creating endotoxins in a confined space, which might bring about death.

SOME PRACTICAL POINTS IN UROLOGICAL DIAGNOSIS.

By Herbert Bronner, Louisville.

It is not the purpose of the writer to give an exhaustive dissertation on urological diagnosis; but rather to point out some features in the diagnosis of genito-urinary cases, especially the type of cases that the average practitioner is liable to meet.

There has probably been no branch of medicine in which such strides have been made in the more exact diagnosis of conditions as in the lesions of the genito-urinary system. These advances are due to the wider spread use of the cystoscope, ureteral catheter (including various manipulations accomplished therewith) the X-ray and the renal functional tests.

The conditions which we wish to deal with more espeially are haematuria, tuberculosis of the urinary organs, hydronephrosis and stone.

There is no symptom which frightens the patient more and is often more disconcerting to the physician than haematuria. In order to determine its source a thorough and systematic handling of the case is necessary. The history of the case is often helpful in diagnosis. Where a systemic condition such as malaria, purpura, etc., can be eliminated as the cause we must look for some local lesion.

When bleeding occurs independent of urination and blood appears at the meatus, we must suspect the anterior urethra. The following case will illustrate the use of the endoscope to discover the source of hemorrhage in the anterior urethra:

Mr. R. M. Patient had been exposed two days previous to the appearance of bleeding from the urethra. He first noticed diffuse pain along the cord and perineum. Then he observed bleeding at the end of urination and on close questioning it was elicited that oozing occurred from the meatus independent of urination. There was no pain on voiding, no frequency, the urine showed no pus. Believing that the bleeding was from a point anterior to the triangular ligament, I suggested to his physician that we first use the urethroscope and if that failed to discover the source of bleeding that we would introduce a cystoscope. The urethroscope was introduced and at the end of the bulbous urethra the source was immediately found. The field showed a a congested area and at least half of the field was occupied by a firmly adherent black clot. There had been a laceration of the urethra at this point and nature was controlling the hemorrhage by clot formation. A cotton applicater touched to the spot was slightly colored by contact and the clot was found to be firmly attached. We advised rest and the condition cleared up absolutely in a few days.

Of course if the patient has an acute gonorrheal urethritis with terminal bleeding, we have a plain case of acute posterior urethritis. But there are cases, chronic in character, with terminal bleeding which are referable to the posterior urethra. These cases can only be accurately diagnosed by posterior endoscopy. The lesions are confined largely to the prostatic urethra and consist, generally, either of a highly congested verumontanum or a papillomatous condition. Relief from bleeding only follows treatment directed to these parts.

The following interesting case belongs to this type:

Mr. F., age 23. Patient never had venereal disease and denies masturbation. Had been complaining for several months of frequent and painful urination. For several weeks previous to his visit at the office there had been terminal bleeding and slight uneasiness in the perineum. Examination of the prostate and vesical negative. Examination of the posterior urethra with endoscope showed a congestion of the entire prostatic urethra, the verumontanum being greatly swollen and exhibiting several eroded oozing areas. Application of 20 per cent. silver nitrate to the involved structures brought about a rapid recovery. Swinburne was among the first to call attention to this class of cases.

If the bleeding comes from the bladder the history, the urinalysis, the symptomatology, the age of the patient, the rectal examination, etc., will often give a fairly good idea of the diagnosis.

Painless haematuria not affected by rest would point to tumor.

Painful haematuria increased by motion would point to stone.

Bleeding occurring in men over fifty with enlarged prostate would point to the gland as the cause of hemorrhage.

If the patient has a stricture with bleeding this lesion is probably the cause.

But in the end, the final and positive method of diagnosis is observation through the cystoscope. One glance into the viscus will determine the cause, provided the source be in the bladder.

Calculus and foreign bodies give a beautiful cystoscopic picture.

Bladder tumors whether benign or malignant are easily seen.

Tuberculosis whether of the rare ascending or common descending type shows the lesion corresponding to the stage of involvement.

Solitary ulcers, non-tuberculous in character, are sometimes found, especially on the posterior wall.

Certain forms of cystitis will be seen causing haematuria. We have found these cases more often in women. Two illustrations will probably explain the lesion.

Eva S., (hospital case). Complained of very frequent and painful urination. Passed blood at times and phosphatic concretions. Examination revealed a laceration of the perineum and a retroflexion.

Cystoscopic examination shows a very marked picture. The fundus is enormously congested, no normal mucous membrane being visible. The base and trigone are covered by a thick, yellowish-white deposit which is flocculent in some places. Here and there in the field are bleeding points. The ureteral orifices are seen with difficulty. The picture is that of a chronic alkaline cystitis.

Mrs. M., age 32. Patient complained of frequent, painful urination with bleeding. This woman had borne several children and had been seriously lacerated. Cystoscopic examination showed a congestion of the base of the bladder. The trigone was denuded, as if a membrane had been present, fallen off, and left a raw area involving fully two-thirds of the trigone. This condition accounted for the bleeding. We believe that this case corresponds to what Pilcher calls edema trigoni pseudo-membranosum.

The latter class of cases will be found more often in the female, accompanying some malposition or laceration and will only be permanently cured by an operation directed to the cause.

Where the cystoscope has been of signal benefit is in the early diagnosis of bladder tumors. The following cases will illustrate three classes of cases most often seen—papillomata diagnosed early, papillomata diagnosed late, carcinoma.

Mr. C. Had been complaining of painless haematuria for only several weeks. No other symptoms. Cystoscopy in September, 1912, revealed a very beautiful small villous papilloma to the inner side of the right ureteral orifice. As this type of tumor was one which was particularly adapted to the high frequency treatment it was advised that this method for its removal be employed. The advice was accepted. One high frequency treatment was given this patient and the growth removed completely. We have examined the bladder several times since and the only thing visible is a very slight scar.

In contrast to this case where the diagnosis was made early we give the following:

Mrs. R., age 60. Patient first had haematuria ten years ago. A vaginal cystotomy was performed at this time. Two years ago had another attack of haematuria which was treated by vaccines and local measures. At this time (March, 1913), had been passing blood for five weeks.

Cystoscopy, March 7th, 1913, shows a diffuse cystitis; a very large papillomatous mass in base, smaller masses in lateral walls and fundus, which can be seen distinctly oozing. Ureteral orifices plainly visible and catheterized with ease, the separate urines being clear. Diagnosis: Multiple papillomata of bladder.

Mr. G. M., age 66. Two years ago had first symptoms. Patient had to void too often both day and night. He then developed burning on urination. A little over a year ago noticed bleeding. At this time pain on urination was increased. At present time suprapubic pain and also pain over left kidney. Bleeding is almost constant. Sometimes the entire urine is bloody, at other times blood occurs at end of urination. Clots are passed at times. Patient has lost twenty pounds in two years, looks pale and emaciated. Brown-Buerger introduced with comparative ease using alypin anesthesia. The field was obscured by blood so that nothing could be seen. Finally by using a continuous irrigation, a wonderful picture was obtained. Projecting into the bladder from the fundus, the base, and the side walls were variously shaped masses, some fairly smooth others covered by papillomatous overgrowth, giving them a cauliflower like appearance. In some places large villous growths formed festoon-like masses which waved in the bladder. In some places these projecting masses almost obscured the field beyond, rendering it dark. Bleeding from the surface was plainly visible. The ureteral orifice could not be seen, being hidden away in these masses. Obstruction to the left orifice evidently accounted for the pain over the left kidney. The trigone deeply injected and edematous and the posterior urethra likewise. The colliculus showed the condition known as edema bullosum. The prostatic lobes were slightly enlarged. Diagnosis: Inoperable carcinoma of the bladder.

Where hemorrhage is due to obstructing prostate, the cystoscopic examination is of great value. We learn the extent of the enlargement, whether the lateral, median or posterior lobes are causing the trouble and whether there are complications such as stone or diverticula.

Where injury is the cause of bleeding the history and symptoms make the diagnosis obvious.

RENAL AND URETERAL HAEMATURIA.

Where active bleeding is taking place, the cystoscopic picture of a ureteral orifice spurting blood is unmistakable and unforgettable, making one of the most striking pictures possible. But, while such a picture tells us from which kidney or ureter the blood is coming, it does not tell us the cause of bleeding. The determination of this cause is at times very difficult and may require an exploratory operation to clear up the diagnosis. Here again a careful history, a complete urinalysis and the use of special methods are essential.

The removal of a kidney is always a serious proposition and nephrectomy for haematuria, except where one of the well recognized indications is present, should not be done until every effort to make a diagnosis has been exhausted. We wish to quote Braasch, who has had an enormous experience, on this subject: "Needless to say, every means of diagnosis should be employed before exploration is undertaken. It has been our rule not to advise surgical exploration unless the haematuria was so marked as to incapacitate the patient or whenever evidence existed which suggested the possibility of neoplasm. Exploration is not justifiable where no clinical evidence exists other than one or two spells of haematuria. In such cases ureteral catheterization or any of the various methods of renal pelvic irritation, such as overdistention, pyelography, epinephrin, etc., should first be tried, or, as has been recently suggested the injection of blood-serum" The chief cause of renal and ureteral haematuria are stone tuberculosis and tumor. The diagnostic methods for stone and tuberculosis will be touched upon later and so will not be taken up at this time. As the prognosis of renal tumor is always very dubious, our efforts should be in the direction of the earliest possible diagnosis. But it is just in the early stages that the diagnosis is often difficult. In the late stage where there is an easily palpable tumor with profuse haematuria the diagnosis is easy and the prognosis almost certainly fatal. Our object should be to make the diagnosis before there is a large mass and before cachexia. Given a history of beginning painless haematuria and the finding of blood coming from the ureteral orifice, can we make an early diagnosis of tumor? If we can eliminate tuberculosis and stone by fairly sure methods, we should inject the kidney pelvis with collargol solution. If a tumor be present, in a large percentage of cases, it will be shown by the irregular outline of the kidney pelvis. Another method of some assistance is the use of a reliable renal functional test, preferably phenosulphonephthalein, which will demonstrate a marked diminution of function on the involved side. The ureteral orifice on the affected side may show an increased number of blood vessels, some of them seeming to come out of the orifice.

There are several other causes of haematuria which have been studied in the last few years. This list includes unilateral nephritis, pyelitis, renal varix, hydronephrosis, floating kidney, aberrant blood supply, etc.

In nephritis a thorough physical examination including examination of the heart, eyes, blood vessels will often give a hint as to the condition. The urine between attacks will show the findings characteristic of nephritis.

Renal varix or an angiomatous condition of the papillae of the kidney is difficult of diagnosis. This lesion has been studied most carefully by Fenwick, McGowan, Pilcher and Cabot. The haematuria is painless and there is the absence of tubercle bacilli in the urine or other phases of tuberculosis, the absence of a shadow in the kidney or ureter, the absence of a tumor mass, the absence of signs of nephritis. It is difficult to differentiate a beginning tumor and a varix. Here again the functional test is useful, as the function is only slightly distrurbed in varix but markedly so in tumor.

In the last few years it has been demonstrated that pyelitis due to the colon and pus organisms can cause bleeding. In making the diagnosis stone and tuberculosis must be carefully eliminated. In pyelitis urinalysis and cultural methods show pus and the offending organisms, cystoscopy shows slight changes around the ureteral orifice and the catheter obtains pus from the affected side. Braasch claims that pyelography will show marked changes in the pelvis.

The diagnosis of the haematuria caused by the acute nephritis which accompanies the acute exanthematous diseases and the haematuria due to injury is easy.

As the prognosis of urinary tuberculosis is so dependent on early diagnosis we must endeavor to make this diagnosis before extensive and hopeless damage has taken place. There are certain symptoms which should always arouse suspicion of tuberculosis. Persistent acid pyuria for which no other cause can be given is extremely suggestive. In fact, pyuria in the absence of other infection always calls for an investigation of the Genito-urinary tract for tuberculosis. Frequency occurring day and night, especially in young patients, is also very suggestive, especially when accompanied by the pain of intolerance. A sudden haematuria always demands the elimination of tuberculosis. Given a symptom group such as the above, with or without others that might be mentioned, it is essential to employ the diagnostic methods for tuberculosis. A careful search by staining methods may discover the bacilli. But even the most diligent search may fail to find the organsim. In this case a pig inoculation can be made. Incidently, it may be mentioned that in some of the best institutions in the country, a search for the bacilli has been discontinued and a resort to pig inoculation made immediately. Whether the bacilli are found or not, the next step is the cystoscopic examination. By this examination much valuable information is gained. We learn whether the bladder is involved and if so, whether of the rare ascending form which is secondary to the genital organs or of the common descending type which is secondary to the kidney. In the former the pathology will be confined largely to the trigone and bladder neck; in the latter the pathology, at least in the beginning, will be in the vicinity of the ureteral orifice. In the more advanced cases of descending infections, the bladder will show wide-spread involvement.

Cystoscopic methods will also determine whether one or both kidneys are involved. In many cases of renal and ureteral tuberculosis the ureteral orifice on the corresponding side will show suffieient change to make a diagnosis. That this is not always true, in other words that in some cases of extensive renal involvement, the changes around the orifice may be practically nihil is shown by this instructive case.

Mrs. G. This patient had complained of painful and frequent urination for several years; also pain in the right side under the costal arch. Examination of urine by a competent laboratory man showed pyogenic organisms but no tubercle bacilli. An autogenous vaccine was made and used to no avail.

On Nov. 20th, 1912, we were asked to cystoscope this case. The bladder mucous membrane looked normal. The only difference between the ureteral orifices was that the orifice on the side of the involved kidney was slightly more prominent—no distortion, no congestion, no tubercle, no ulcerations, none of the findings characteristic of tuberculosis. A perfectly clear normal urine was drawn from the right kidney loaded with tubercle bacilli and colon bacilli. Two days later the right kidney was removed. This kidney showed advanced tuberculosis, being studded with tubercles and containing four large abscess cavities. There were several instructive points to this case. First—Ureter catheterization cleared up the diagnosis absolutely. Second,the bladder, in spite of decided symptoms and in spite of the marked involvement of the kidney, showed no involvement. This is the class of cases which are treated for a long time as bladder affections. Third, the ordinry voided specimen, even after careful examination showed no tubercle bacilli, while the specimen drawn from the kidney pelvis was teeming with the organism.

There are certain changes around the ureteral orifice in tuberculosis which are very striking. These pictures are claimed by Fenwick, Barringer, and others to be pathognomonic of tuberculosis. Two cases will probably best illustrate this point:

R. P. Patient complained of frequency of urination day and night, pain over right kidney. Left epididymis has been incised for abscess. Urine shows pus, blood cells and tubercle bacilli. Cystoscopy April 28th, 1913, at request of Dr. Dugan. An intense cystitis was found, the bladder rapidly filling with pus, which whirled like a shower of snow in the water medium. Left orifice somewhat congested and surrounded by reddish granulations; catheterized comparatively easily, a purulent urine being obtained. A great deal of pathology in vicinity of right orifice. Intense livid redness extending out in a fan-like manner from orifice over trigone. Great edema of parts and whole area covered by masses of pus. By using continuous irrigation and moving part of pus with tip of catheter, the rigid, distorted orifice was at last found. Catheter was introduced and met an obstruction at three inches, a tuberculous stricture of the ureter. Urine from both sides showed tubercle bacilli in abundance.

E. T. Patient began to complain of frequent and painful urination eight years ago. At present urinates once an hour day and night but urination is not painful. Complains of pain over right kidney and ureter. Bleeding for the last few weeks. Cystoscopy March 18th, 1913, at request of Dr. Trawick. This was accomplished with difficulty owing to the intolerance of the bladder and rapid clouding of the medium. Region of right ureteral orifice showed marked pathology. Great congestion and edema spreading over trigone. Small ulceration near orifice and masses of pus hanging over orifice. The orifice could not be seen distinctly on account of the edema. Evidence of diffuse cystitis, the mucous membrane being covered by muco-pus and showing deeply injected edematous areas. Sphincter greatly thickened.

Having made a thorough examination of the bladder and orifice, we should next catheterize the ureters and get specimens from each kidney. If the bladder specimen contains the bacilli, it will only be necessary to stain the separate urines. If the bladder specimen was negative, the separate specimens should be examined by staining methods first, and if this examination be negative a pig inoculation should be done or if preferred the inoculation can be done at once.

If the symptomatology is very characteristic and if the cystoscopic picture is very typical, a diagnosis can be made even without waiting for the pig test. In some cases it will be found impossible to catheterize the involved side on account of extensive stricture of the ureter. Another procedure which should be carried out is the determination of the function of the non-involved kidney or where there is bilateral involvement with only a beginning process on one side, the determination of function in the latter kidney with a view of deciding whether ths kidney can carry on the necessary work if the worst organ be removed. The phenosulphonephthalein test should be employed, the drug being injected intravenously and the amount secreted for at least fifteen and preferably thirty minutes being measured.

In hydronephrosis we should endeavor to make the diagnosis and hence relieve the condition and its causative features before it becomes so patent that he who runs may read. In typical advanced cases characterized by attacks of pain with nausea, vomiting and fever and by an easily palpable mass which may vary in size, the diagnosis is comparatively easy. But the diagnosis should be made in early cases by the combined use of the cystoscope and X-ray.

Observation of the bladder shows, as a rule, nothing abnormal except a feeble spurting at the ureteral orifice. The catheter usually passes easily to the point of obstruction. If this obstruction can be congenital as an anomalous renal vessel, it will be found between twenty to twenty-five c.m. from the orifice and will be passed easily. In the acquired cases, such as those due to stone, stricture, etc., the catheter passes with more difficulty. When once the catheter has passed the obstruction, a free flow of urine follows the characteristic rhythm being absent.

A further valuable measure is the injection of the pelvis of the kidney with a 10 per cent. collargol solution followed by an X-ray. This procedure determines the capacity of the hydronephrotic sac; locates the position of the kidney and also the position of the obstruction in the ureter since the lower border of the sac must be above the obstruction and give us the outline of the kidney pelvis.

The more extensive use of the X-ray has opened up a new era in the diagnosis of renal and ureteral stone. More calculi are found in well equipped hospitals because they are looked for more systematically. When it is remembered that a history of colic is only obtained in about 50 per cent. of cases and that pain of any kind may be absent in 10 per cent. of cases, it shows the need of the X-ray in obscure abdominal cases. We are certain that if modern diagnostic measures are employed that more stones and less appendices will be removed.

Of course, an attack of colic demands an X-ray of both kidneys and ureters. Other symptoms, however, are suggestive of stone, pain in the back and along the ureters increased by motion; bleeding whether macroscopic or microscopic, especially if accompanied by crystals; and as Cabot has shown, frequency. Where the X-ray shows a shadow—is this shadow infallible? Not absolutely. Phleboliths, calcified glands, etc., may give a shadow, especially along the lower part of the ureter. In order to confirm this finding, we may resort to the shadowgraph catheter. If the shadow of the mass and the catheter coincide the diagnosis of stone is confirmed. Kelly used a wax-tipped catheter to diagnose stone and Braasch has shown that the catheter will feel the stone in the ureter in 80 per cent.

of cases and in the pelvis in 70 per cent.

Where the stone is in the vesical portion of the ureter, the cystoscopic findings are generally very characteristic. The ureteral ridge is thickened, edematous and congested and the corresponding orifice is often so congested that its outlines are difficult to find. In a recent case which we saw, the orifice was surrounded by a number of punctiform hemorrhagic spots.

Lastly, after having made an ordinary X-ray plate, we can inject the kidney pelvis and ureter with collargol and take a second plate. By comparing these two we can accurately locate the stones and in this way determine the best operative procedure. It must be remembered that in a small per centage of cases a shadow will not be obtained even though stones be present.

In conclusion we may state that the diagnosis of these and other urological conditions, owing to the frequent similarity of symptoms is often most difficult; so that, even after the employment of the best diagnostic methods, an exact preoperative diagnosis is sometimes impossible. We are certainly, therefore, called upon to use the most exacting methods which includes principally endoscopy, cystoscopy, ureter catheterization, X-ray, collargol injections and renal functional tests.

DISCUSSION.

Geo. H. Day: I have enjoyed the doctor's paper very much indeed. In regard to the technique of the injection of phenolsulphonephthalein I cannot quite agree with the essayist as to intravenous injection. My experience has been that it is not as trustworthy as the subcutaneous method. I think the doctor would get better results if he would allow a little more time and give the drug a better chance to act.

The technique of Heintzmann in the examination of urine is of the greatest help. For many years his theory was laughed at, but in the past few years it has taken the place it deserves. With this method we can get an idea of the part of the genito-urinary tract that is affected, a differential examination of urinary epithelium together with the cystoscopic offers the greatest possibilities in urinary diagnosis.

Henry J. Farbach: Like Dr. Day, I do not favor the intravenous injection of phenolsulphonephthalein; I like the intramuscular method better, and usually select the lumbar muscle. The elimination is not quite so rapid and is more complete. As a matter of fact, I believe that the time of the appearance of the agent in the urine is a better index as to the function of the kidney than the amount eliminated. The amount excreted often varies. In one case recently, the patient, after the first test, eliminated only about forty per cent. in two and one-half hours, but in a subsequent test (with which no eliminative treatment was given) he excreted sixty per cent. in one and one-half hours. In both instances, however, the time of the appearance of the drug in the urine was practically the same.

It is surprising with what ease and rapidity the bladder can be examined by modern cystoscopy. Even a local anesthetic is not required. In the hands of an experienced man, the cystoscope plays an important part in the diagnosis, not only of bladder lesions, but of other conditions as well.

Dr. Bronner's paper was very entertaining and instrutive and I have enjoyed it very much.

J. Garland Sherrill: There is no department of medicine or surgery that has made greater strides in the past decade than has the diagnosis of lesions of the genito-urinary tract. Dr. Bronner's paper is very thorough, and he has covered practically every phase of the diagnosis of these conditions. I wish to indorse every word he has said in commendation of the methods and principles now in vogue in the diagnosis of this class of cases.

One phase of the subject that he did not mention is the diagnosis of diverticulae in the bladder, which is almost impossible except by means of the cystoscope, or at the operating table. It is a condition that is sometimes very trying and gives rise to symptoms that call for treatment.

I wish to call attention to that type of cases where there is blood in the urine, but in which no stone can be demonstrated in the entire urinary tract. In these cases the haematuria is due to the passage of minute crystals of oxalate of lime, or other formation, from the kidney to the bladder. These crystals, in many instances, bring forth minute amounts of blood, and blood cells can be detected in the urine by means of a microscope. Only in rare instances do they produce a visible haematuria, but many cases where we find blood cells in the urine by microscopical examination are cases of this character. I was very much impressed by a case in which we examined for all the usual sources of renal hemorrhage, and finally made an exploratory operation, which is considered justifiable by most authorities in order to determine the cause of renal haemorrhage. In this case nothing was found other than a varicosity of the veins of the kidney. In the past year or two a number of articles have been published on the subject of so-called symptomless haematuria. I think "symptomless" is a bad term, inasmuch as haematuria itself is merely a symptom of some other condition. Differentiation between tumor and varicosity cannot be made except by means of the functional test which the essayist mentioned and, if necessary, assisted by an exploratory operation. At operation a tumor, if present, can be made out, and failing in the diagnosis of tumor, we may find the bleeding to be caused by dilatation due to twisted vessels, or from a true angiomatous condition of the vessels of the kidney.

Louis Frank: I feel that I must rise to commend this thoroughly scientific and carefully prepared paper. This is the sort of work that, of necessity, must be carried out before we can hope to make accurate diagnoses of diseases of the genito-urinary tract, and certainly it is very important that they be carried out before any operative steps on these organs are undertaken. I am very glad indeed to have had the opportunity of hearing this paper.

First, in regard to tuberculosis of the kidney. My own observation has been that these cases do not consult the physician early in the course of the disease, and even when seen early (i.e., during the first six or eight months), it is exceedingly rare that a correct diagnosis can be made, from the clinical symptoms alone. In such cases we have depended, not upon bacteriological or microscopical examination of the urine, but upon the injection of the urine into a guinea pig, which is undoubtedly, in our opinion, the best procedure. We will often get a tubercle bacilli reaction in a guinea pig following the injection of urine in which we have been unable to demonstrate tubercle bacilli in a number of slides extending over a period of several days. In early cases the tubercle bacilli cannot be found in the urine, and in some instances they will be absent for a long time. In such cases, neither the cystoscope nor any other method will serve to make the diagnosis.

Another point I wish to bring out is that, in my experience, the fact that the disease has existed for a year or two does not necessarily mean a fatal termination. The condition, as I have seen it, is chronic in character. I have under observation at the present time an individual suffering from tuberculosis of the kidney who, after operation on the tuberculous area, followed by rest in bed, improved very markedly, with complete cessation of symptoms. In this individual the disease had existed for three years to my knowledge, and possibly several years longer than that.

A test of the function of the kidney that I deem equally as reliable as the phenosulphonephthalein test, is carmine-indigo injection. This can be carried out and the observation made while the patient is being cystoscoped, the injection having been made some fifteen or twenty minutes before. I think it is a very valuable test of renal function. In cases where there is swelling of the ureteral orifice, or where for any reason the orifice is not easily discernible, the injection of indigo carmine will render catheterzaton easy.

Just one more point in regard to tumors. Tumors which occupy one pole of the kidney may exist for a long time without giving rise to any symptoms, and there is no interference with the function of the kidney until late in their development. I have seen cases in which operation revealed a tumor of the kidney which had existed for a long time without causing any symptoms other than blood in the urine.

J. Rowan Morrison: I am very glad indeed to have heard this paper, which I consider a very valuable one.

I merely wish to call attention to the fact that haematuria may occur from nephritis. I saw with Dr. Marvin some time ago, an old lady, with arteriosclerosis and apparently a chronic interstitial nephritis. She passed considerable quantities of blood with the urine, which probably came from some destructive process in the kidney. It has been demonstrated by post-mortem examinations that changes often occur in the kidney from such conditions.

Herbert Bronner, (Closing): In regard to the method of making the renal functional test, I think it is recognized that where we simply want to determine the total function, the intramuscular injection is best, but in the type of cases mentioned in the paper, where we have ureteral catheters in the ureters of a tuberculous patient, the intravenous method is pretty generally adopted. Contrary to Dr. Farbach's opinion, it has been demonstrated that the total amount eliminated during the first hour after the injection is more to be depended upon as an index to renal function than the time of the appearance of the drug in the urine.

I agree with Dr. Frank that in many cases of renal tumor, collargol will not help us, but if it is of value in even a fair percentage of these cases, I think it should be arried out.

Burns.—Treatment.—Where patient shocked and cannot stand anesthesia, use dressings of saturated picric acid solution for two days. Then clean up burns under chloroform general anesthesia with 70 per cent. alcohol, rubbing vigorously, and dress with same, on gauze, covered by dry gauze, cotton, and bandage. Dress daily in same way under anesthesia for eight days; then apply boro-glyceride gauze dressings, when healing will rapidly follow. In burns involving whole skin, cut off sloughs with scalpel, without waiting for separation. To avoid excessive alcohol absorption, one may interpose boro-glyceride gauze between burn and alcohol gauze.—Milligan.

Appendicitis, Chronic.—Diagnosis.—In cases of chronic appendicitis with digestive symptoms, induction of referred pain or distress in the epigastrium, left hypochrondrium, umbilical, left inquinal, or precordial region by a continuous firm pressure over the appendix (McBurney's point) is a valuable test in deciding when and when not to recommend operation.—Aaron.

CLINICAL CASES

UTERINE FIBROID WITH HAEMATOMETRA AND FOUR MONTHS OVUM.

By Edward Speidel, Louisville.

Mrs. —., was referred to me on February 19th, 1913, with the following history: The patient, 38 years of age, married three years has had one child, 19 months old, labor normal. As she was nursing her baby, menstruation did not appear until September, 1912, again in October, the period was missed in November, but on December 8th profuse bleeding began and continued daily more or less until February 19th, the day upon which she came to my office. She gave no history of having passed any products of conception although large clots had passed from the vagina at different times since December 8th.

Upon bimanual examination I found the cervix patulous, admitting the tip of the index finger, a blood clot escaping during the examination. A firm, nodular tumor extending upwards to the umbilicus and toward the right side could be palpated per abdomen. Upon the left side a cystic tumor could be felt filling the left vaginal fornix and palpated on the abdomen midway between the symphysis and the umbilicus. I operated upon the patient on February 23rd and upon opening the abdomen found an enlarged uterus with a fibroid occupying the median line, on the left side the uterine wall was thinned out and extended over to the left border of the pelvis. A supravaginal hysterectomy was done, both tubes and ovaries being removed also as the patient was near the menopause. Upon examining the mass after the operation, fully a quart of black clotted blood of the consistency of meconium, oozed out of the cervical end of the tumor upon gentle manipulation, and then an ovum of about four months gestation surrounded by its membrane and liquor amnii but free from the placenta which could be seen on the wall of the uterus. escaped from the cervix. In spite of the anemic condition of the patient, there were no postoperative complications, and the patient returned to her home in three weeks.

This case should be of interest, from the association of pregnancy with a fibroid tumor. the presence of a four months fetus in spite of the history of having missed one menstrual period and the retention in the uterus of the ovum in spite of continuous bleeding of more than two months and the presence in the uterus of such a large quantity of clotted blood.

The differential diagnosis between a six months pregnancy and a fibroid extending up to the umbilicus is based mainly upon the absence of menstruation in the pregnancy and the presence of profuse menstruation in the fibroid. In addition when the patient can be kept under observation for one or two months then the rapid increase in the size of the uterus with the fetal heart sounds and active movements of the child will readily distinguish a pregnancy from a fibroid. The firm cervix and the hard nodular feeling of the fibroid uterus should also be distinguished from the softened infravaginal cervix and the almost cystic uterus of a six months pregnancy.

When pregnancy occurs in a fibroid uterus then the diagnosis became even more difficult, and the main reliance must then be placed upon the absence of menstruation. Under such circumstances areas of softening or cystic distention of that part of the uterus free from fibroid nodules should aid in the diagnosis. No doubt the new serum test of Abderhalden, if proven reliable will later on aid in the diagnosis of pregnancy in such obscure cases. This test is based upon the fact that the blood serum of a pregnant woman has the power to digest fresh placental tissue. As the discovery, however, is still in the experimental stage, and the method of performing the test is rather complicated, it is fair to assume that it will not come into general use at present. If found reliable, it will prove especially valuable in the first half of pregnancy where it is often so difficult to make a positive diagnosis otherwise. If the fetus is six months advanced in gestation then the X-ray will show its outlines and easily settle any doubt as to the diagnosis. In the case reported we not only have pregnancy associated with fibroid tumore, but the presence of continuous bleeding for three months, the apparent passing of only one menstrual period and the presence in the uterus of a complete four months ovum in spite of the expulsive efforts of the uterus during all that time. The retention of so large a volume of blood in the uterus is another unusual feature.

Original Article.

DISCUSSION.

C. W. Hibbitt: I would like to ask Dr. Speidel what was the location of the cystic tumor?

Edward Speidel: It was suspected that the woman was pregnant early in the case, in view of the history of having missed one menstrual period. I judge, however, that she passed the product of conception at the time when, according to the attending physician, the patient bled for a long time. Upon bimanual examination the condition appeared to me to be a large fibroid uterus, with perhaps an ovarian cyst on the left side. Upon palpation on the left side of the vagina, the entire condition appeared to be cystic, and the cystic tumor could easily be outlined upon the left side with the other hand on the abdomen. Upon opening the abdomen it was found that the cystic portion was the distended left side of the uterus. As you will see from the specimen, the fibroid mass was entirely on the right side and on top of the uterus. The cavity of the uterus was distended until it extended over to the left side of the pelvis, and contained, in addition to a full four-months ovum, at least a quart of clotted blood which made a tumor occupying practically all of the pelvis below the umbilicus.

MALIGNANT TUMOR OF INTESTINE.

(REPORT OF TWO CASES.)

By A. DAVID WILLMOTH, Louisville.

The prevalence of cancer in all parts of the body makes the subject of more than passing interest, wherever the growth may be located and whatever age the patient may be.

The following case is deserving of more than ordinary interest for two reasons; first, the difficulty experienced in diagnosis due to a lack of symptoms usually found in malignant abdominal conditions. Second, the insiduous manner in which the growth had progressed to an advanced stage.

On April 29th, 1913, I was asked by Dr. Hackworth of Brooks' Station, Ky., to see the following case:

Mr. C. S., white, family history good, parents living, and healthy, age 18.

Personal history was as follows: Had had the usual diseases of childhood, otherwise had enjoyed the best of health. Had worked on a farm doing the work of an adult for several years, and at the time of his present illness was hauling cross ties. Present illness began about two weeks previous to my seeing him and was as follows: That following a hard day's work loading and unloading cross ties a work conducive to a ravenous appetite which he had, and satisfied by eating the many good things usually found in a country home. He was suddenly stricken in the latter part of the night with an intense pain in the right iliac region accompanied with nausea and vomiting and soreness over site of pain. Slight distention, temperature and pulse normal.

A diagnosis of appendicitis was made and the classical treatment of washing out the bowel and withholding food from mouth together with local applications sufficed to control the acute symptoms. In something like 48 hours the patient was feeling well enough to sit up, and in a few hours more was walking about the farm.

He continued to have this soreness in his side and on the slightest indiscretion in diet would feel an increase in the severity of the symptoms he had from day to day. On the seventh day from the date of the first attack he was again seized with acute symptoms which again yielded to the treatment as directed in the first attack. After five or six days he recovered to where he was after the first attack and was walking around when seen by me.

My examination revealed the following facts: Temperature and pulse normal, abdomen flat but tender over McBurney's point. Right rectus muscle stiff but, since the patient was of slender build a mass could be easily made out in the region of appendix, size of a small orange. I readily concurred in the diagnosis and advised the removal of appendix.

The patient delayed coming to the city for several days and had another acute attack, with a history of partial recovery as before. He then came to Louisville and had another attack the night of his arrival which I relieved in a short time by the treatment as mentioned above, viz: enemas and local applications. Thinking I could let the acute symptoms subside he was allowed to wait and on the fifth day from the attack he was again stricken with acute symptoms which quickly yielded to the treatment as before. Not wanting another attack to come I waited 36 hours and advised operation believing firmly in my diagnosis of appendicitis with adhesions, etc.

The incision was made over McBurney's point and directly over the mass that could be easily felt.

When the peritoneal cavity was opened a small amount of bloody fluid escaped and the cavity was found to be completely filled with a cancerous mass made up of intestine, omentum and mesentery all matted together, by bread and butter adhesions, and overlying a growth in the post peritoneal glands on both sides, the size of an orange, the one on the right side being the one felt on palpation.

The liver was nodular showing a spread of the growth to all parts.

There was no involvement of the stomach that could be detected macroscopically. Since the condition was beyond relief no work was attempted save to remove a small piece of tumor for microscopical examination, which was done and showed round cell sarcoma as reported by Dr. Horine

From the manner in which the growth evidently began I consider this a primary growth in the post peritoneal glands along the abdominal aorta, spreading to surrounding structures.

This case lived only a few days and died. After death I learned that some two or three years previous to the beginning of this trouble, he had received an injury to the abdomen by a fence rail falling across the body. He complained of soreness following the injury for several weeks.

This case was remarkable to me for the reason that he worked and felt well up to within seven weeks of death. It was almost beyond belief to look at so much pathology and think of his feeling well.

CASE II.

Mrs. J., white, age 42, referred by Dr. E. B. McKenney of this city, with the following history: That for several weeks she had been having colicky attacks and difficulty in getting bowels to move at time attack came on. These painful attacks lasting for several hours and simulating in many ways some condition in the gall bladder.

The attacks came more frequent and with more severity, so much so that during the last three or four there was vomiting of fecal matter. Operation was deferred as long as possible in this case for the reason that the urinary analysis showed such a diseased condition that the administration of an anesthetic was clearly contraindicated.

During this spell of waiting which lasted some three weeks a distinct mass could be felt on palpation on the left side from two inches below the umbilicus to three inches above occupying the umbilical space. Seeing that further delay was useless and that interference had to be resorted to an anesthetic was administered and the abdomen was opened by an incision one inch to the right of the middle line having its beginning two inches below the umbilicus and extending upward some three and one half inches.

On opening the cavity the growth here presented was readily recognized and lifted out of the cavity as no adhesions were present.

The growth was on the free border of the ileum and about two feet from the ileocecal valve. The gut below the obstruction was normal in size and empty while that above was empty but the wall was markedly hypertrophied and the gut was fully three times the normal size. All that portion of the gut that was infiltrated, together with a small portion of the healthy bowel was removed and a lateral anastomosis done.

The anastomosis worked perfectly from the beginning allowing the gas fecal matter to escape, though the kidney lesion we so much feared soon had a telling effect and death from the nephritis was the result.

The pathological examination by Dr. Horine shows this to be adeno-carcinoma.

Since the reports of various authorities place primary carcinomas of ileum in the rare list, giving it only five per cent. of malignant conditions in the abdomen, this report was deemed worthy of your attention.

DISCUSSION.

J. Hunter Peak: I wish to speak to only one point; namely, the lack of symptoms in this case until the condition was beyond repair. It is marvelous to me how a condition of that kind could exist without causing symptoms, and yet those of us who do abdominal work have seen many cases in which obstruction of the bowels was the first symptom to call attention to the condition. Sometimes, however, these patients become cachectic and begin to lose flesh but without any especial pain or distress, and go right on with their daily occupation, as in this case, up to the time when some serious condition develops that calls attention to the trouble. It is not uncommon for the surgeon to see the patient for the first time when symptoms of obstruction appear, but sometimes they will go right on to death without presenting any evidence of obstruction. Many such cases have been reported. It is certainly interesting to know that so much pathology can exist without giving rise to symptoms sufficient to call the attention of the physician to the condition present.

W. C. Dugan: The problem of diagnosis in these cases of appendicitis is sometimes a very hard one. I believe, however, instead of being due to trauma primarily, it was an appendicitis. I had a case very similar to this one that I believed was a primary appendicitis with involvement of the gland secondarily. It is very unfortunate that this patient did not come under the doctor's observation earlier. I am glad he had courage enough to stop; it would not have been good surgery to go on.

Primary carcinoma of the large gut, before complications have developed, is one of the most favorable conditions in surgery. In fact, there is no part of the alimentary tract in which carcinoma offers such a favorable prognosis as in the large gut.

I agree with Dr. Peak that the majority of these cases come under our observation only when symptoms of obstruction have developed. Sometimes they will go right up to death before serious symptoms manifest themselves. In many cases carcinoma is considered to be eliminated because the patient has presented no marked symptoms previous to obstruction, and diagnosis of intussusception, or something of that kind, is made, but upon opening the abdomen carcinoma is found. It is strange that this should be true, but it is a fact.

Lee Kahn: In line with Dr. Dugan's remarks concerning the suspicion of appendicitis in intestinal sarcoma is Libmann's report of five cases, the majority of which simulated appendicitis.

The cases described by Dr. Willmoth are typical of their kind. In sarcoma, in contradistinction to carcinoma, general symptoms appear before local symptoms and when obstructive symptoms arise it is so late in the disease that, as Dr. Peak says, little real good can be done. This may be accounted for by the fact that there is no ulceration of the mucosa or tendency to annular constriction as in carcinoma, and when we do get symptoms of stenosis it is not that the sarcoma has invaded the lumen but because of a kink the result of adhesion.

The mobility of the tumor that Dr. Willmoth mentioned is characteristic of carcinoma of the intestine. No tumor within the abdomen enjoys so wide a range of motion, and it has this odd feature that when made to disappear by the palpating hand it returns after a while to the original site.

A. D. Willmoth, (Closing): I have very little to say in closing. The first case reported was exceedingly interesting to me, because of the fact that the young man was healthy enough to perform the heaviest kind of manual labor and manifested no symptoms whatever until suddenly stricken with acute involvement about the appendix, which undoubtedly produced the colicky condition.

W. C. Dugan: Was there an enterolith in the appendix?

A. D. Willmoth: I did not remove the appendix. The entire contents of the abdomen were so thickened and friable that I was afraid to do any manipulation. I knew that if I ever tore a hole in the intestinal wall I would never be able to patch it. Upon discovering the extent of the condition I did nothing except to remove a small portion of the omentum for microscopical examination, after which I closed up the incision, realizing the utter impossibility of closing any hole in the gut that might be made by any attempt to separate the adhesions. The post-peritoneal glands were involved, as is the history in almost all cases of roundcelled sarcoma. It was probably primary in that location and spread -from there into the surrounding structures.

There is nothing especially interesting about the second case reported, except that carcinomatous growths in the ileum are rather rare. They are common in the stomach and a little less so in the duodenum, and are quite common in the rectum and sigmoid. The minute I opened the abdomen there was a growth, directly under the site of incision. I merely took out the entire growth with several inches of gut that was kinked around and constricted. Excision of the gut was easy, because everything could be brought out of the cavity and done extraperitoneally; it was easy to do a lateral anastomosis. We had allowed this woman to lie for a month with this obstruction because of the condition of the kidneys, but were finally driven to operation by complete obstruction of the gut. Not even gas would go through it and we were forced to do something to relieve the woman.

W. C. Dugan: What anesthetic was used?

A. D. Willmoth: Ether and gas, with a hypodermic of morphine and atrophin preceding it.

AN UNUSUAL CASE OF GONORRHEA.

(REPORT OF CASE.)

By Edw. B. Richey, Louisville.

Mr. A., age 63, white, family history negative, has had no disease except two other attacks of gonorrhea.

Patient came to me suffering with an intense cystitis, a pyuria a hematuria with painful micturition and an intense prostatitis. Urinary examination specific gravity 1023, immense quantity of albumin, epithelial cells, red blood cells, tube casts, pus cells, and bacteria.

The hematuria was so marked that the renal secretions were a distinct red. The patient has suffered loss of 30 pounds of weight in six weeks. Patient had no appetite and with these several complications we considered the outcome somewhat doubtful.

The patient was placed in a local infirmary, in bed, placed upon moderate light diet and was given irrigations of normal saline solution with a dram of adrenalin to the quart every four hours. A quart bottle of Piperazine water was given during every twenty-four hours. Microscopical findings showed large quantity of streptococci and staphylococci as well as large quantities of the gonococci of Neisser. So the next step taken was the use of gonorrheal phylacogen.

In as much as we had an involvement of the kidneys which to some might seem a contra indication for the use of phylacogen we deemed it wise to begin with a small dose. We gave 1-2 c.c., the temperature for the next succeeding six hours didn't go over 99.4. The next dose was 1 1-2 c.c. on the following day and the succeeding six hour temperature reached a maximum 100 F. The third dose was 2 c.c. on the following day with a maximum 100.1 degrees F. during the succeeding six hours. On the third day 3 c.c. were given with a maximum temperature of 100.6, and on the next day 3 1-2 c.c. with a maximum temperature of 101.3. The reaction following this dose was so severe that we reduced the dose the following day to 3 c.c. again and continued this dosage each day until 30 c.c. had been given except upon one occasion when the weakness of the patient and the increased reaction caused us to decrease the dose to 2 c.c. We stopped the administration of the phylacogen after the tenth dose for two reasons: the weakness of the patient and the small reaction of the phylacogen. The patient was then put on tonics and after a week of this treatment is walking around with no complaints to offer.

An interesting feature in this case is the rapid clearing up of the urinary condition after the administration of the third dose of phylacogen, albumin decreasing in quantity very rapidly, pus cells disappearing, epithelial cells, tube casts and all pathological conditions rapidly disappearing until specific gravity was reduced to 1014 and a mere trace of albumin was present. The patient has had no pain on micturition, no stoppage of the stream, no difficult urination since the fourth injection of phylacogen. Night sweats which were extreme in the beginning and up until phylacogen treatment was finished, have entirely disappeared. Patient has good appetite, facial expression good and all together the situation is extremely hopeful.

DISCUSSION.

Henry J. Farbach: Urinary symptoms of the character described are the ones we often see in infections of this kind. I am not a phylacogen man and do not believe in them. I cannot understand why a patient with such a severe condition should be subjected to the many foreign proteid reactions which follow the use of phylacogens, when, in my opinion, we can accomplish the same thing with an autogenous vaccine. The question of foreign proteid reactions is coming to be a very important one from several standpoints. The theory upon which phylacogens are based is, in my opinion, a fallacious one, for this reason: I believe the main contention of phylacogen enthusiasts is that the metabolistic product produced by bacterial infection or by the presence of bacteria in the body, has more to do with the symptoms of the disease than perhaps the bacteria themselves, and if we have an antigen that will create an antibody for that metabolistic product, the patient will be relieved of the clinical symptoms. That is a beautiful theory, and if it would be carried out, would be ideal, but we cannot carry it out. For instance, take the gonorrheal phylacogen. We know that the gonococcus grown in boullion produces an entirely different metabolistic product from that of the gonococcus grown in the human body, or in the culture media in which it is necessary to grow them before they can be induced to grow in the boullion. Therefore, we are not putting into the body an antigen for the metabolistic product of the gonococcus as it appears in the human body. It is true that we hear reports of beneficial results following the use of phylacogens, but I cannot see that they possess any advantages over vaccines in any way, while, on the other hand, there are many disadvantages, the severe proteid reaction being the principal one. I do not believe a patient with a severe condition should be subjected to this proteid reaction.

Edw. B. Richey, (Closing): I neglected to state in the report that this case of gonorrhea was contracted about three years ago, but it had not caused him any trouble, so far as he knew, until three months ago, or about six weeks before treatment was begun. At first there were as many bacteria in the urine as I have ever seen in a urinary specimen. Since the use of the phylacogen there has developed an urethral discharge, from which we were at first able to secure bacteria, but after a while this discharge disappeared.

Phylacogens and vaccines should be distinguished from each other; they are two distinct entities, in my opinion, and are not comparable at all. Each has its place. I have used autogenous vaccines but not with very great success. True, I have not used them as frequently as the stock vaccines and phylacogens, because my early experience with them was not favorable. The length of time it takes to prepare them, and the fact that it is necessary to produce a urethritis sufficient to make a culture from, puts them at a disadvantage because of the trouble entailed. This man was very ill and I do not believe he would have been alive to-day but for the treatment employed. It was astonishing to me to note the gradual clearing up of all the symptoms, and the patient himself, who is above the average intelligence, believes that it saved his life.

I reported this case because of the unusual extent of the infection and the unusual rapidity of the recovery, covering a period of perhaps eighteen days.

PUERPERAL ECLAMPSIA RELIEVED BY CESAREAN SECTION.

(REPORT OF CASE.)

By J. Hunter Peak, Louisville.

On the morning of June 10th, I was called by Dr. Yeatts to see, in consultation, Mrs. D., whom he had visited earlier in the day and obtained this history:

She had been feeling perfectly well with the exception of a slight headache the night previous, but it was not sufficient to arouse marked attention. She retired, feeling fairly comfortable and went to sleep. Her husband was awakened, between four and five o'clock the next morning, to find her in convulsion. Dr. Yeatts, who had been engaged to attend the woman in confinement, had made a complete urinalysis ten days previous to this, and had left instructions that if at any time any symptoms should develop, to send him another specimen of urine.

When I saw the case I felt like throwing up the sponge at once. I have never seen a patient have such terrific convulsions, and they came on one right after the other. At my suggestion she was immediately removed to the Jewish Hospital, which was close by. The patient had menstruated last on November 12th, which would make it appear that the pregnancy was of about seven months duration. She reached the hospital at 6:45, having been unconscious the entire time since her husband had discovered her condition, not having regained consciousness between convulsions. She had a convulsion while on the elevator and another shortly after getting to her room. The duration of the convulsions ranged from five to thirty minutes. It is chiefly due to the nurse, Miss Woodruff, at the Jewish Hospital that the child is alive to-day, and it is due her that honorable mention be made. An attempt at catheterization was made, but anything done to this woman would immediately bring on another convulsion. It would seem sometimes that she would not live through the convulsion, and we would have to cease manipulation until she regained some of her rosy color, and come out of the cyanotic condition which would develop during a convulsion. I thought the quickest way to relieve this woman was to empty the uterus, so I called Dr. Onderdong and Dr. Bizot, Dr. Yeatts being with me, but without waiting for them I made a vaginal examination and found a long servix with no evidence of dilatation, no uterine contraction, no pain, and no evidence of labor whatever. It was almost impossible to dilate the cervix. After about two hours work, under chloroform, it had dilated sufficiently to admit two fingers. I believed it would be impossible, without surgical interference, to empty the uterus, and decided that Cesarean section was indicated for these reasons:

First, it was the quickest and easiest way of emptying the uterus in view of the condition presented.

Second, in a condition such as this, the lowering of arterial tension is desirable, this can be had by hemorrhage, and in Cesarean section we can control the bleeding at will.

After catheterization and proper preparation of the patient, she was taken to the operating room about ten o'clock, having had a convulsion or two while taking her there, and another when the anesthesia was started. The operation was completed by 10:45 o'clock, the patient put back to bed and she rallied into good condition within a short time. At the operation, the uterus was thoroughly emptied. The placenta was attached to the front part of the uterus, and it was necessary to go right through it. The baby was delivered in good shape and the nurse brought it around very quickly. Mother and child are both here to-night.

As soon as the patient regained consciousness after leaving the operating table, she became very restless. Occasionally she would swallow something that was put into her mouth, and she was given three drops of croton oil in a dram of glycerine. As soon as possible we began giving her saturated solution of magnesium sulphate in drachm doses, every few minutes, with an equal amount of simple syrup, which she would take all right. This was continued for several hours.

Sixteen ounces of urine had been drawn from the bladder at the time she came into the hospital, and in the first twenty-four hours following operation 29 ounces were drawn by catheterization. The urine was so full of albumen that with any of the tests it would almost congeal in the tube. On the chart at the hospital the amount of albumen is shown as 50 per cent.

The convulsions begun again shortly after operation and continued, notwithstanding the fact that within twenty-four hours the bowels were moving fairly well, and the kidneys acting well. During the next two or three days the bowels and kidneys moved involuntarily, the patient not regaining consciousness until Thursday or Friday (the operation having been done on Thursday).

I believe most authorities on the subject say that the severity of a case of eclampsia is determined by the length of time the convulsions last. In this case the convulsions lasted from 1 1-2 to 5 minutes. When I was engaged in general practice, I had occasion to do considerable obstetrical work, and I can truthfully say that this was the worst case of eclampsia I have ever seen because it is the first one that ever came under my observation.

After the convulsions ceased and consciousness returned, the patient's convalescence was very rapid, and she left the hospital on the fourteenth day.

DISCUSSION.

A. R. Bizot: I saw this case, through the kindness of Dr. Peak, and assisted him in the operation. Eclampsia is not a new condition to me, and every case of eclampsia is an unpleasant one, but of all the eclampsias I have ever seen, this was by far the most severe. I do not wish to be understood as advocating Cesarean section in all cases of eclampsia, and when I saw this case with Dr. Peak I insisted upon an effort being made to empty the uterus in the usual way, but when it becomes evident that the lives of both the mother and child were in danger, I agreed with Dr. Peak's earlier opinion that operation should be resorted to. In the first place, it was necessary to keep the patient under the surgical degree of anesthesia all the time in order to control the convulsions. As soon as the chloroform was removed and she began to come out from under the influence of the anesthetic, she would have another convulsion. It was impossible to dilate the cervix, which was so hard as to be almost fibroid in character. There was no pain, and the woman presented absolutely no indications of labor. Another symptom that induced me to favor operative procedure (which Dr. Peak failed to mention) was the fact that between six o'clock and nine o'clock, the patient developed oedema in the hands and face, even the ears becoming oedematous; her head appeared to be at least a third larger than normal. Furthermore, the pulse began to show the effects of the convulsions, and I am satisfied that this woman would have died within a short time, because when the cyanosis and oedema made their appearance, respiration was greatly interfered with.

I do not know exactly what percentage of albumen the urine contained, but before the patient was taken to the operating room the nurse obtained a specimen of urine which I boiled myself, and it became gelatinous.

Dr. Peak did a very rapid operation and a nice one. As to hemorrhage, the doctor remarked to me that he was not afraid of her losing some blood as he believed it would do her good. I had my hands down in the pelvis controlling the hemorrhage with my fingers, and, just as he directed, I either loosened or tightened my grip on the cervix, and was able to control the hemorrhage beautifully.

I think every case of eclampsia is a law unto itself. This was the worst case I have ever seen, and I believe the lives of the mother and child whom you have seen here to-night, were saved by the operation of Cesarean section.

Edward Speidel: I would like to ask Dr. Peak whether or not he took this patient's blood pressure;

J. H. Peak: No, sir; I did not.

Edward Speidel: I understood the doctor to say that an urinalysis had been made a few days before the eclamptic attack, and found to be normal. Consequently, the condition must have developed very suddenly, and in such cases the blood pressure is a good guide. It is generally conceded that early cases of eclampsia can be controlled by means of narcotics. The treatment that is now considered to produce the best results in early cases of eclampsia—say as early as the seventh month—is the so-called Strogonoff treatment, consisting of the use of morphin hypodermically and chloral and bromides per rectum, and I believe the convulsions might have been controlled by this means in Dr. Peak's case. If the object of the Cesarean section was to secure a loss of blood and in that way get rid of a definite amount of poison, the same thing could have been accomplished by venesection and the introduction of an amount of normal saline solution equal to the quantity of blood withdrawn, especially as the patient was in a hospital.

Another point is this: It has been demonstrated that chloroform will produce in the liver, pathological changes similar to those produced by the toxin causing the eclampsia, and for this reason it is pretty generally accepted that ether is the proper anesthetic to use in cases of eclampsia.

Furthermore, it appears to me that, if, as the doctor states, the cervix was dilated sufficiently to admit two fingers, vaginal Cecarean section was the proper procedure. By making an incision across the cervix, dissecting off the bladder, and making another incision upwards three or four inches, sufficient room can be obtained to accomplish delivery through the vagina.

That the child was delivered by means of Cesarean section and is still alive is a very gratifying procedure was indicated in this case, but I believe result, and would appear to be evidence that the most authorities now agree that Cesarean section is rarely necessary for the relief of eclampsia. In late cases it is usually possible to dilate the cervix sufficiently to effect delivery, and in early cases the convulsions can be controlled by means of narcotics, and delivery induced by slow methods, within a week or two, as I have seen practiced in a number of cases.

Leon L. Solomon: I think Dr. Peak is to be congratulated upon appearing here this evening "with the goods." Evidently the justification of his heroic operation, he presents not only the mother, whose life was apparently in peril, (and chiefly to be considered in arriving at the conclusion to operate), but also a living baby, hale and hearty. And, finally, to make the clinical picture complete, we have presented before us the husband and father, as well. Unquestionably, the doctor's operation has been a success, but I take it, that the procedure, carried out by Dr. Peak, is not one, that would be considered justifiable by the rank and file of the profession. Too short a time had elapsed, after the beginning of the eclamptic attack—only a few hours, according to the report,—to justify this "dernier resort." And all ofthis, notwithstanding the fact, that the woman appeared to be in dire distress. The doctor emphasizes this dire distress, as demanding the section. Every woman, who ever had, or ever will have eclampsia, will appear to be in great distress. No bedside picture can be more horrible, than eclampsia. However, the literature abounds in recoveries, where only ordinary means are adopted. Here was a robust-looking young woman, who, during the seventh month of gestation, was suddenly seized with convulsions. She was not given nearly a fair trial, with the usual methods in vogue, before resort was had to the knife. All that the doctor undertook to obtain for her, by quickly emptying the uterus, namely cessation of convulsions, was not obtained, in that the convulsions persisted and unconsciousness prevailed, for quite a protracted period, (according to his report), following the operation. It appears to me, that the institution of the usual rational treatment, which is still in splendid repute, among the profession, should have been relied upon in this case, to control the convulsions, without such hasty recourse to the Cesarean operation. The free exhibition of anti-spasmodics, narcotics and chloroform might have avoided the necessity for the very heroic measure, which the doctor too hastily, in my opinion, undertook. I suggest also, that purging with such a severe remedy as croton oil, particularly after having removed the child by Cesarean section, was improper and highly dangerous. Croton oil should have been used before recourse to the knife, as is evidenced by the fact that the patient afterwards passed a basin full of undigested vegetable matter,—peas and tomatoes. It seems to me, that the measures, just referred to, might have saved the patient the danger of the tremendous operation of Cesarean section. Notwithstanding all these facts, however, the doctor deserves to be congratulated upon having saved both mother and baby. The succes sof his operation, in this instance, does not indicate that it is the proper plan to be followed in succeeding cases.

F. T. Fort: I believe Dr. Solomon is on the right track. The chart shows that the convulsions continued up to the time when the patient passed a "basin full of peas and tomatoes," after severe purgation. I am inclined to believe that the eclampsia was produced by an intestinal toxemia, and if the patient could have been tided over by the use of anesthesia, antispasmodics, and other means of controlling the convulsions at our command, until thorough purgation had been brought about, it is a question whether Cesarean section would have been necessary. It is possible that the patient might have gone on to full term. However, while the doctor may have been a little hasty in concluding to operate, he is to be congratulated upon the happy outcome of the case.

J. Hunter Peak, (Closing): I wish to thank the gentlemen fortheir generous discussion of this report.

In regard to the use of morphia and other drugs of that character, the chart will show that they were employed and that sometimes the convulsions were controlled thereby, but not for very long. In looking back over the chart, I believe the medication that controlled the convulsions for the longest period of time was 1-12 grain of heroin. Other remedies employed seemed to have no particular effect.

I am glad that Dr. Bizot mentioned the oedematous condition of the hands, feet and face. It was distressing in the extreme. Realizing that one of the most important things to do was to empty the uterus and thus get rid of at least one of the conditions that was producing the eclampsia, and knowing also that it would not prevent us from carrying out eliminative treatment afterwards, we concluded to operate.

As to vaginal Cesarean section, it is an operation that I am not familiar with, although I have done a number of vaginal hysterectomies. I believe it would have been harder to do than an abdominal Ceserean section, and in my opinion, it is considerably more dangerous. I do not think abdominal Cesarean section is an operation that entails a great deal of danger, particularly under favorable conditions. In most instances it is done after the patient has been injured by instrumentation and exhausted by protracted attempts at delivery, and under such conditions the danger is greatly increased. In my opinion, the patient should not be subjected to all these dangers when Cesarean section can be so easily done and perfect drainage secured.

As to the condition being of a toxemic character, I believe it is pretty generally accepted that all eclampsias are of toxemic origin, and whether the toxemia in this case was produced by the gravid uterus or was of intestinal origin, it seems to me that the best and quickest method of relief was the one carried out, the results of which you have seen here to-night.

I do not wish to be understood as advocating Cesarean section in all cases of eclampsia. In late cases, where labor has begun, we can probably deliver the woman by podalic version or some other means as quickly as we can get her ready and do a Cesarean section, but in early cases, where the cervix cannot be dilated, and the condition of the patient is growing rapidly worse, I believe the best way out of it is the quickest and the easiestway—by Cesarean section.

Adenitis, Tuberculous.—Treatment.—1. Produce Bier hyperemia by applying elastic band about neck for a few hours before opening abscess. 2. Make very small straight incision into gland, evacuate contents with dull spoon, using no force, and, without washing or wiping out cavity, introduce a 2 to 4 per cent. solution of formaldehyde in glycerin, and seal incision. Primary healing results in 50 per cent. of cases; others are treated by further injections. 3. In cases of extensive involvement, prescribe enzymes of yeast internally. 4. In the few cases that do not respond satisfactorily, resort to radical operation.—Brown.

AN UNUSUAL ABSCESS OF THE CHEST.

By Ellis E. Owen, Louisville.

J. S., age 24; white, male, came to the office March 24th last complaining of severe cough and profuse expectoration of a very bad odor, no pain present, cough being main complaint. Patient giving no history of any tuberculosis in the family, four brothers living, all healthy; mother about 60 and in good health.

About one year previous to March 24th he suffered an attack of pleurisy with effusion, was aspirated and a pint or so of clear fluid drawn off. A dry cough began about a month after and continued for about eight months. In the meantime he worked as a tender to a stone mason, while lifting a heavy cement block he felt a severe pain in his right side and immediately began coughing up large quantities of a reddish-brown, thick fluid at times almost choking him as he described it to me. From that time till I saw him he continued expectorating from a pint to a quart during the 24 hours. On examination of this discharge it was found to contain only a large amount of pus with very few streptococci and staphylococci, no lung tissue or tuberculosis bacilli. Temperature 99-101 degrees, respiration 25-30, pulse 110. Patient never had any night sweats or chills that he could remember. Usual weight being 156 had lost about 30 lbs. in a year. Examination showed slight enlargement on right side, tenderness over region of gall bladder, dullness of liver continuous up to the second intercostal space and to the sternum to mid axillary line. Breath sounds very feeble, never had attack of gall stone colic. Sputum examined time and again.

Continued treatment for the next two months showed apparently no results. So, thinking I might clear up the infection of what organisms I did find in the sputum, I gave the patient 20 c.c. of the mixed phylacogen in increasing doses from five minims as the initial dose, and getting such a decided reaction from such a small dose I kept the patient on this treatment, with the result that his coughing began to stop, expectoration was checked and all symptoms disappeared in about thirty days, and the patient gained about eighteen pounds in the six weeks following the initial dose of phylacogen. Thinking himself cured he quit treatment and went to work on a farm, here I lost track of the patient till August 1st. when I was called to his home in the country. He explained he had worked up till about July 10th when he worked in the rain and caught cold and his cough began over the same as before but not expectorating near the amount he had. Had been in bed about a week and all physical signs were more plain than at any time before. Suffering from shortness of breath, right side very large, severe pains on coughing, pulse running 120, respiration 30, temperature 102 and 103, seeing that an operation was the only hope I begged the family to bring him to the hospital, to which idea they did not agree and a week elapsed and the patient became delirious before I finally persuaded them to have an operation performed. Dr. Zimmerman was called in and operated the 8th of August.

The patient being in such poor condition we were unable to give a general anesthetic so decided to open under local anesthesia. A large caliber needle about 3 inches long was inserted just beneath the right nipple, and not until the needle was pushed in full length did we get any signs of pus, and then only a few drops of thick pus. Following the course of the needle under local anesthesia an incision about 2 inches long was made down to the sack, dilated with a pair of forceps, and pus to the amount of 3 quarts drained off. A large quantity of pus escaped that we were unable to measure but altogether we can safely say about 4 quarts of pus was drained from the abscess, two tubes were placed in the incision, patient dressed and taken back to bed; dressings being changed 4 to 6 times daily, irrigation of normal saline kept up daily. Temperature remained about the same, ranging from 100 to 102 degrees, pulse running from 110 to 118, respiration staying the same for about a week when it came down from 30 to 24 and 28; patient getting some relief but showed the same signs of a septicemia and followed the same course till the 23rd of August when he died.

DISCUSSION.

B. F. Zimmerman: Dr. Owens has described the operation that was performed. The pus was located at a depth of 2 1-2 or 3 inches. The needle was 3 inches long and it entered the abscess cavity after having been introduced nearly its full length. The patient was greatly emaciated, so it must have been a considerable distance in the lung.

Whether it was a true abscess of the lung, or, as Dr. Owen believed, a chronic abscess of the gallbladder which had burrowed through, or whether it was an empyema, I am unable to say. Of one thing I feel certain; that the condition was not tuberculous.

J. H. Peak: How do you explain the fact that the patient expectorated considerable quantities of pus?

B. F. Zimmerman: There was undoubtedly a communication with the bronchi. He expectorated between a pint and a quart of pus every day for a considerable length of time. The pus was of the character that we could expect to find in liver abscess—thick and chocolate colored, but we may find this character of pus in other conditions. In abscess of the lung the odor of the pus is very offensive. This pus had no such odor at first, but subsequently became very offensive.

W. C. Dugan: Did you find any lung tissue in it?

B. F. Zimmerman: No, sir.

Edw. B. Richey: I think it is rather unfortunate that the use of phylacogen was not continued longer in this case. If this had been done, it is possible that the abscess would not have formed. Of course the phylacogen would have been of no value after the abscess had formed, but it appears to have given him relief in the beginning, and if it had been continued over a longer period, it might have prevented a recurrence.

Ben Carlos Frazier: In my opinion this was an empyema following the pleurisy from which the patient had suffered some months previously, according to the history of the case. I do not believe it was a lung abscess, especially since Dr. Zimmerman has told us that he did not find any lung tissue.

M. Casper: I am inclined to agree with Dr. Frazier that it was an empyema. We know that in some of these old cases the pleura gets very thick. I operated upon a case some time ago in which the pleura was nearly an inch thick.

It seems to me that four quarts of pus is a large amount to come out of a lung abscess. However, the pleura may easily contain four quarts. An empyema may establish communication with the bronchus by burrowing through, and this would account for the expectoration of pus.

W. C. Dugan: I have never seen the character of pus that Dr. Zimmerman describes come from the pleural cavity. I am quite sure that it was a liver abscess. I cannot conceive of that character of pus coming from the pleural cavity and being primarily an abscess of that space.

Ap Morgan Vance: The weakest part of this case is that the doctor did not get a post-mortem. All this talk is the merest guess-work, whereas a postmortem would have cleared it up. Wherever we can do so, we should persuade the family to allow us to hold an autopsy. The more autopsies we get the more we will know.

Filariasis.—Treatment.—Case of pronounced elephantiasis of lower extremities in which two intravenous injections of 0.6 Gm. of salvarsan caused disappearance of filariae from blood and great reduction in size of limbs, weight falling from 400 to 244 lbs.—Barnes.

FIBROID TUMOR OF THE UTERUS.

(REPORT OF TWO CASES.)

By J. GARLAND SHERRILL, Louisville.

Two cases of uterine myofibroma of especial interest from a diagnostic point of view. In one of these it was very difficult to determine whether the case was a soft myofibroma or one of pregnancy and I report it because I consider it a very instructive case and of sufficient value to be placed on record. The second was a case in which an ectopic gestation complicated a small uterine fibroid in which there was some confusion as to whether the entire mass was a uterine fibroid or not.

CASE I.

Miss K., maiden lady, 35 years of age, came to me with the following history. During the last five years she had noticed an increased amount of menstrual flow which has been worse in the last two years, since which time she had noticed an enlargement in the abdomen. She absolutely denied any chance of centrally implanted partially fixed, elastic ovoid mass very remarkably resembling a pregnant uterus. There was no evidence of dilatation of the os, which was only slightly softened. The mass moved with the cervix and was evidently a growth of the uterus. At one time during the examination I thought I felt a uterine contraction. A very careful examination, however, failed to confirm this and there were no evidences of fetal heart sounds or placental souffle, although there was a vague and indistinct hum noted at one point. Her breast showed no evidence of change, nor was there any other evidence of pregnancy present, ballottement being negative. The patient was very pale and anemic, her nails giving indication of anemia from loss of blood. I finally decided that she had a fibroid of the uterus and arranged to operate. Dr. Van Zandt examined her and concurred in the diagnosis.

After the abdomen was opened the uterus presented a pale ovoid somewhat elastic body resembling fibroid so closely that those present called attention to the fact that it was a fibroid. The fundus was grasped with a pair of tenaculum forceps and immediately there exuded a quantity of clear serum at the points of its grasp. This made a very strong suspicion that it was a case of pregnancy, so much so that one of the bystanders exclaimed "pregnancy." I decided to make certain concerning this point and therefore made an incision one and one-half inches long through the uterine wall, which was one-half inch thick, coming down upon a membrane which was quite like an amnion, although unable to distinctly feel a fetus it seemed reasonably certain that pregnancy existed. All that could be detected was a sense of resistance to lateral pressure. The uterine wound was sutured and the organ replaced and the abdomen closed. The patient left the table in good condition, and I told her afterward that we did not remove the growth fearing that she was pregnant. About four days after operation she began to flow—apparently a normal menstruation. This subsided after a few days without treatment. There was no evidence of any dilatation of the os during this time, no cramping pains that would be likely in a miscarriage. About this time her temperature reached 102 without any abdominal wound infection, and soon subsided. The tumor apparently diminished somewhat in size but still remained, when she left the hospital, the size of a pregnancy of about four months. She lost her extreme pallor and gained in strength before she left the infirmary.

Not wishing to do the young woman an injustice and trusting that perhaps I had made a mitsake, yet believing it wiser to await developments rather than subject a supposedly pregnant uterus to hysterectomy, I feel justified in my course of action in the matter. To protect myself I rgeret that I did not subject her to an X-ray examination and positively determine the fact even after the operation. In a similar position I would advise any practitioner to thus fortify himself. My reasons for excluding pregnancy prior to operation were the absence of nausea and vomiting, the history of prolonged bleeding which, of course, must be taken *cum grano salis*, the extreme pallor showing to my mind evident loss of blood, and the absence of any positive signs of pregnancy, therefore you can imagine my feeling when all those present at the operation were strongly convinced that she was pregnant.

I advised her that if she was right in her contention that pregnancy was impossible, a few months time would settle the matter.

On October 15, 1912, this patient returned with but slight increase in the size of the tumor with a history of having bled each month for two weeks. A very careful examination showed an absence of ballottement, absence of fetal heart sounds, no dilatation or softening of the neck; a pulsation could be felt transmitted from the irregular vessels of the tumor, which was quite movable. I was compelled to return to my original diagnosis of soft uterine myoma, notwithstanding the evidence of my eyes at the former operation had convinced me and all about the table that she was pregnant.

On October 16, 1912, under ether anesthesia, a large cystic myomatous uterus was removed very easily in ten minutes from the time of the abdominal incision, the operation being completed in thirty minutes. Incision into the tumor explained to some extent why our mistake was made. After going through the wall we came upon a rather distinct fibrous membrane, inside of which was accumulated considerable serum held in a number of interspaces formed of delicate connective tissue. Upon incising through the os uteri a very large uterine cavity was found, which readily accounted for the hemorrhage the patient had been having. The mass of the growth was submucous, hence the great amount of dilatation of the uterus which was present. This case is a most interesting one to me, and while I have always been very cautious before making a diagnosis of pregnancy in an unmarried woman and although I had made a diagnosis of myoma before the first operation, the findings at that time were such that it was almost impossible to negate pregnancy, although in thinking back over the case I remember that we were unable to feel any fetus through the wall at that time.

CASE II.

Referred to me by Dr. B. C. Frazier on January 22, 1913, with the following history: In the latter part of December, 1912, Dr. Frazier was called to see a colored woman, age 31, well nourished, with a history of indigestion at intervals for several weeks, due she thought to pregnancy, having missed two menstrual periods. He administered a laxative, as she had a history of constipation, and advised teaspoonful doses of milk of magnesia three times a day. In a week or ten days he saw her again suffering acute pain, which was not well localized, the more severe pain being in the right lumbar region, and at other times, as she described, up in her stomach. On seeing her the second time she gave the history of having had some bearing down pain and that there had been some show of blood from the vagina the night before. He advised her to keep quiet in bed and gave her one-eighth grain of morphia in doses often enough to control her pain. It was several days before he saw her again and found that she had obtained relief and gone several days without pain, but this pain had recurred and she had had a sinking spell and at night was cold and clammy with sweat. The doctor made a vaginal examination at this visit and discovered that she had a fibroid tumor, and he also thought her to be two or three months pregnant, not from the vaginal findings but from the history. The symptoms led him to suspect that renal colic might be the causative factor. After this intermittent pain she had considerable flow with large clots. From the history of a very large one having passed, which the doctor did not see but which was reported to be membrane, it was thought she had had an abortion. She was kept quiet in bed but the pain did not cease and subsequent to this she had the most intense pain of all. Several of these attacks seemed to prostrate her very much and her pulse was 120 or more, without fever, accompanied by cold perspiration. These symptoms were gathered from her friends as Dr. Frazier only saw her in one attack. Dr. Cuthbert Thompson saw her and agreed that she had a fibroid tumor, and because of the continued pain and more or less hemorrhage an operation was advised. She was removed to the Red Cross Hospital and there I first saw her. At my examination she had a very weak and rapid pulse; she was also suffering some from a cold. Examination revealed a large rounded mass in the pelvis connected with the uterus with an irregular nodule in the right side. Diagnosis: Uterine myofibroma, with a suspicion of ectopic. Most of the history related above was obtained subsequent to my examination, and therefore our data were not sufficient to make a positive diagnosis of ectopic gestation; we were unable,too, to separate the mass into two distinct portions. Had we been fully acquainted with the entire history it is probable that the diagnosis could have been accurately made.

CASE III.—SUTURE OF THE BRACHIAL ARTERY.

Patient referred to me by Dr. Rudell; male, 23 years of age. I was called to see this patient about eleven o'clock on November 21st, 1912, with a history of having sustained an injury to his arm by being caught in a drying machine in a laundry. I learned later that this machine acts by centrifugal force, the water being thrown out by revolution. In getting out a garment, this patient's arm had been caught and twisted in such a manner as to produce a dislocation and, as the result showed, a rupture of the brachial artery. He was suffering great pain and the arm was swollen and discolored. There was entire absence of radial pulse on that side, and there was a slight protrusion at the elbow which later observation showed to be a dislocation of the humerus. The swelling was very great, and I made no effort to manipulate the arm on account of the intense pain it caused. The arm was placed in hot water and left there for a time in order to determine whether or not circulation would be restored by the application of heat. The skin of the arm was unbroken. At the end of three hours his condition had become worse; the swelling had increased, the arm was purplish in color, and there was absence of sensation to touch, but great pain. Dr. George C. Leachman was called and saw the patient with me. Diagnosis of rupture of the brachial artery was made, and operation was performed with the idea of doing what might be deemed best for the injured artery. There was no false aneurism; there was no pulsation in the swelling at the elbow, and upon making incision in the arm we found only a small clot; in other words, there was no free bleeding. An incision about three and one-half inches long was made in front of the elbow, and revealed the two torn ends of the artery standing out prominently in the triangular space. Both ends were plugged by clots, the upper end having a larger clot than the lower one, which was only partially closed. Neither was bleeding at the time of operation. The sheath of the vessel was torn away from the distal end and had retracted up on the proximal end. The humerus, which lay in front of the coronoid process, was placed in position. The median nerve was exposed in the wound, but no injury was apparent, in other words, it was not torn or lacerated. The suturing was accomplished after the method of Carrell, using one-third of the smallest size linen thread, obtained by loosening the three strands, placing forceps on each one and separating them. A very small curved needle, about the size of a Kirby, No. 16, was employed. In order to facilitate approximation, the arterial ends were held by three guy sutures, which was accomplished by means of a continuous suture from Carrell's description of the operation, of linen thread. I have here a drawing made which will show the method employed. The sutures were passed through the ends of the vessel, coming out as near the margin as possible. Where the ends were irregular or ragged, they were first trimmed up to make them smooth. Prior to suturing the vessel, the blood clots were removed from both the distal and proximal torn ends, and a few drops of blood allowed to escape to wash out any fragments of clots. No appreciable bleeding occurred from the lower end of the artery. A small clamp was placed on either end, about three-fourths of an inch from the end. After the vessel walls had been united, the sheaths of the vessel were brought together over the line of suture and approximated by suture. We tried the circulation just prior to putting the last stitch in the vessel itself, and bleeding occurred from one point. Another suture was put in and the bleeding stopped.

Circulation was almost immediately restored, the fingers becoming pink within five minutes after the suturing was completed. The arm was placed in a right angle splint over a voluminous gauze dressing. I was unable to get a distinct pulse at the wrist for some little time after the operation. Numbers of times I thought I detected it, but was afraid that the desire to feel it was sufficient to make me believe it had been felt. However, it was soon restored. Several examinations after that revealed that the artery was pulsating at the wrist. I account for the rather late restoration of the pulse at the wrist by the fact that the suturing narrowed the vessel, and only a small stream could pass the line of suture at first, but it was sufficient to immediately restore the circulation and the color in the forearm.

It is probable that had I tied the ends of this vessel, the arm might have been saved, but collateral circulation was going on very slowly, and with no open wound to allow drainage, and with the great swelling pressing on the soft tissues below, I was somewhat doubtful that good results could be obtained. However, the result obtained makes me believe that we were justified in making anastomosis. Since his recovery, after a somewhat protracted convalescence, this boy has had a numbness in the fingers, which is probably due to atrophic changes as the result of injury to the nerve. One point that developed the other day is a loss of sensitiveness to heat. He put this hand into some water that was too hot and sustained a burn, which accounts for the bandage on the arm. I am inclined to believe that the ulnar and perhaps musculo-spiral nerve was injured to some extent by the dislocation. The musculo-spiral nerve was buried under the muscles on the outer side of the arm and was not seen in the field during the operation.

DISCUSSION.

Geo. C. Leachman: I had the good fortune to be present at the operation in the last case reported by Dr. Sherrill, and I think he really deserves to be complimented. Dr. Sherrill gave a very mild description of the arm as it appeared when I saw it. It was very greatly swollen and in the water it appeared to have an indigo blue color. We agreed that the joint should be opened at once. Upon opening the joint above the elbow quite extensive hemorrhage was encountered. Dr. Sherrill said there was no free bleeding but I thought there was. There was a clot in the lower end of the severed artery, but if I remember correctly, when we found the upper end it was spurting. This might have been due to the fact that he dislodged the clot after getting hold of the artery. There was marked dislocation of the humerus forward with some laceration of the tissues.

Dr .Sherrill did a very nice piece of work in this case and I think he deserves to be complimented upon the result obtained thus far.

Jno. K. Freeman: I think we sohuld feel very proud of the fact that we have a man in our midst who can save an arm that was injured as this one was. In years gone by this arm would probably have been amputated at once, and the fact that we con now suture an artery and reestabilsh circulation, is an evidence of the progress that has been made in surgery.

If I am not mistaken, Dr. Sherrill stated that he carried the sutures through all the coats of the artery. In experimental work on dogs and cats, I have always endeavored to carry the sutures through everything but the intima, for fear that, if carried through the epithelial lining of the artery, the presence of the foreign body would tend to the formation of a clot. Physiology teaches us that any foreign body in a blood vessel tends to produce a clot, and for that reason if, in suturing blood vessels, we can make them perfectly tight without carrying the sutures clear through the arterial wall, I believe we will secure better results. Of course, we are still young in this class of work, and there are many questions to be worked out in the future.

The other cases reported are also very interesting. The second case particularly demonstrates the great difficulty we sometimes have in establishing the diagnosis of pregnancy. In the first case, I believe I would have introduced a sound into the uterus. I was criticised in this society on one occasion for having put a sound into the uterus. I have repeatedly made the assertion that an uterine sound is one of the most dangerous instruments in surgery, but in the proper hands it can be made a very valuable diagnostic agent. Of course, the introduction of a sound will not tell one everything, but in this particular case I believe it would have helped to make the diagnosis.

Chas. Farmer: Just a few words in regard to the first case of uterine fibroid reported by Dr. Sherrill, who was kind enough to invite me to be present at this operation. It was a very interesting case from a diagnostic standpoint. When the abdomen was first opened he felt sure it was a fibroid. Then, upon grasping the fundus of the uterus with a tenaculum, a fluid very much like amniotic fluid escaped. Upon opening the uterus a mass protruded through the incision which looked exactly like fetal membranes, and he was more in doubt than ever. It looked very much like a pregnancy and I think Dr. Sherrill carried out the proper procedure.

A. R. Bizot: I would like to ask Dr. Sherrill whether, after rupturing the membranes, he did not believe this woman would miscarry in the course of time? It has been my experience that in the majority of cases, where the membranes have been ruptured, the patient miscarries in time. It seems to me that, after it was found that the membranes were ruptured, it was time to clean the uterus out.

F. T. Fort: I have enjoyed Dr. Sherrill's report very much indeed, and I think he is to be congratulated upon the results, especially in the case of suture of the brachial artery. It illustrates the fact that conservative surgery will save a great many legs and arms. However, I think there is some question as to whether he ligated the radial or the brachial artery. Pressure on the radial, cutting off most of the circulation in the lower arm would have accounted for the swelling, which disappeared upon removing the clot and releasing the pressure, but I am in doubt whether it was the radial or the brachial artery that was sutured.

M. Casper: The lack of sensation to heat and cold in this arm since the operation is, I believe, due to faulty circulation. I recall a case in which suture of the brachial artery was done, and the patient complained of this symptom for a long time. In this case a small foreign body entered the arm and went through the artery without causing any serious injury to any other part of the arm which might have accounted for the condition which followed operation.

A. D. Willmoth: The second case reported by Dr. Sherrill is particularly interesting. In a case of this kind, where the patient is a young girl, the question of pregnancy is a very delicate one and may easily become a legal problem. I wish to especially commend Dr. Sherrill upon the method he pursued in this case. Those who were present at the meeting of the American Medical Association in Atlantic City and heard Dr. Deaver's excellent paper on hysterectomy, will remember the condemnation he received at the hands of the gynecologists and how well he took care of himself in the closing discussion. In this case I think Dr. Sherrill did exactly right to incise the uterus. Opening the uterus will not produce an abortion if the uterine wall be carefully closed over the membranes. In the great majority of such cases the patient will go on and be delivered of a full term child. There was really nothing else for Dr. Sherrill to do and I wish to commend him upon the course pursued.

Edward Speidel: I wish to register a protest against the diagnosis of pregnancy by the use of an uterine sound. It is a dangerous procedure, and in most instances, unless one is very fortunate, it will result in an interrupted pregnancy. At the present tiem we have a certain method of making diagnosis of pregnancy by means of the Xray, and this should be employed where it is available. Under no circumstances should an uterine sound be used.

Louis Frank: I think Dr. Sherrill is to be highly commended for his work in the way of direct blood vessel suturing. Of course, the result in this aprticular case goes to prove that the method pursued was the right one, but I am very much inclined to doubt whether, in the majority of instances, after such a lapse of time as in this case, it will always be as successful. We should bear in mind htat in many instances, arterio-venous anastomosis will obtain equally as good results.

Referring to Dr. Freeman's remarks as to the manner of suturing, our own practice, as shown in experimental work upon animals to be the best, has been to use Chinese split silk, which is as light as floss and answers the purpose admirably. In making anastomosis we must have approximation of the endothelial layer. The method of suturing is practically the same as that carried out in the closure of the peritoneal cavity, approximating first the endothelial layer and then the other layers. In blood vessel surgery success is impossible without passing the sutures through the intima and leaving it in makes no difference whatever. Specimens removed after such operations, experimentally, have shown no clot formation, providing the suturing has been done carefully and aseptically.

One point that I wish to bring out is that this work cannot be carried out in a haphazard fashion. Rigid asepsis and careful technique are essential to success in blood-vessel surgery. It cannot be carried out by any one and under all circumstances, because the danger is great, and the slightest fault in technique or asepsis will bring about disastrous results.

J. Garland Sherrill, (Closing): I wish to thank the gentlemen for their very generous discussion of the report, especially of the second case reported. I would feel very much more open to criticism for this mistake were it not for the fact that everybody agreed with me. I was very anxious to confirm the original diagnosis of fibroid, and had I not been so confident that the woman was pregnant, I would have taken out the uterus.

In regard to the possibility of the wounding of the membrane causing a miscarriage, I agree with Dr. Willmoth that even where the membrane is ruptured, the uterine wall can be sutured over it so that there will be no need of ending the pregnancy, but I merely punctured the membrane and sewed it up, so as to allow the pregnancy to continue, if it was a pregnancy.

In regard to Dr. Freeman's remarks about the suture of the vessel, as Dr. Frank has said, the endothelial lining must unite with endothelial lining, just as peritoneum with peritoneum, in order to get full flow through the vessel.

I agree with Dr. Casper that a restricted circulation might give rise to symptoms similar to those evidenced by this boy since the operation, but I am sure that the splint was too light and the pressure too slight to give rise to Volkmann's contracture from pressure. The muscles on this side are beginning to contract, but I think it is due to an injury to the nerve rather than obstruction of the vessels.

MEDICAL PROGRESS

DEPARTMENT OF BACTERIOLOGY.

By B. J. O'Connor, Louisville.

I.

CULTIVATION OF THE MICROORGANISMS OF POLIOMYELITIS.

In the October number of the *Journal of Experimental Medicine,* Flexner and Noguchi describe a series of successful experiments in the cultivation of a minute micrococcus from specimens of nervous tissue removed from affected human beings and monkeys, which seem to demonstrate the specificity of the organism. In the majority of their experiments the organism was not only cultured but it was also demonstrated in stained sections of tissue, and still more important the pathogenecity of the cultures was proven. No attempt is made at a classification of the organism but its morphology and peculiarities are described and illustrated. Their studies of this organism are further of interest in that the organism belongs to the filterable viruses and that its cultivation is difficult.

In size the microorganism is from 0.15 to 0.3 of a micron in diameter, globular in shape and occurs in pairs, short chains or small masses. Dark field illumination shows no independent motility. After staining with Giemsa's solution, or by Gram's method a colorless or faintly tinted zone, resembling a capsule is found around the organism. The authors are undecided as to whether this is a true capsule or a peculiarity derived from the culture medium. The infectiousness of the culture for a period of at least thirty days was shown by the successful inoculation of monkeys.

In human nervous tissue from autopsies the organism was found in 18 out of 19 specimens by special staining methods. It was usually discovered between the cells but occasionally in the cytoplasm of the nerve cells. The illustrations accompanying the article include colored cuts of the cultures and microphotographs of the organism on slides and in sections of tissue.

The culture media found necessary was human ascitic fluid to which is added a fragment of fresh sterile tissue. Anaerobic conditions are essential for the first cultures. The specimens for culture were obtained from both human beings and monkeys affected with the disease, under aseptic conditions by searing the dura mater with a hot instrument then removing a piece of the cerebrum or cerebellum with sterile instruments. The initial inoculations of the tubes are made preferably with portions of the tissue, but can also be made from filtrates after grinding the tissue with sand in about a 5 per cent. mixture in sterile water.

Under anaerobic conditions there appears at the expiration of about five days of incubation a faint opalescence about the fragments of tissue. This opalescence can be gradually diffused through the culture by agitation. After three to five days more incubation the opalescence extends into the upper portions of the tubes. Growths or cloudiness in the tubes prior to five days indicates contamination of the cultures. The Berkefeld filtrates of the emulsified tissue give rise to cultures but less constantly than the original nervous tissue.

In the discussion of their experiments nothing is said in regard to the transmission of the organism or its method of invading the human race, it is however, but reasonable to hope, that with two such able investigators on its track, that we shall soon learn enough to lessen its ravages.

II.

DROPLET INFECTION IN DIPHTHERIA.

Teague in the May issue of the *Journal of Infectious Diseases* reports a series of experiments by which he demonstrated that in the majority of diphtheria cases the bacilli are emitted from the mouth and throat in talking and coughing. He exposed for a short time plate cultures in front of the mouth of patients during talking and coughing and found diphtheria colonies in over 60 per cent. of his cultures.

Droplet infection of the atmosphere, as occurs with tuberculosis and other diseases, is apparently also to be reckoned with in cases of diphtheria. Appropriate prophylactic measures should include means to prevent contamination of the atmosphere as well as other recognized methods of phophylaxis. A gauze bar might be employed for the bed and cloths held before the face, while talking and coughing.

His studies show that the bacilli are emitted from pharyngeal cases as readily as from the laryngeal types. He emphasizes the fact that the diphtheria bacilli are rather resistant to drying and that air contamination by droplets is a matter of considerable importance.

III.

CULTIVATION OF THE PARASITE OF RABIES.

Noguchi, in the September number of the *Journal of Experimental Medicine,* makes a brief statement of his success in some 50 cases of rabies from which cultures were obtained. He was also able to reproduce the disease in animals by inoculations from the cultures and to demonstrate the organism in the nervous tissues.

The cultural methods employed are similar to those for the cultivation of the spirochaetae of relapsing fever. No mention is made in the statement as to the gross characteristics of the cultures. As the organism belongs to the class of filterable viruses considerable interest is attached to this preliminary report.

Microscopically minute granular and somewhat coarser plemorphic chromatoid bodies are found in the cultures, which can be transplanted to new cultures. In some of the cultures he found round or oval nucleated bodies, resembling the Negri bodies in conjunction with those above described, their appearance is sudden and they disappear within four or five days. Typical Negri bodies are, however, found in the nervous tissue of the animals inoculated from the cultures.

Anna N. Williams (*J. A. M. A.*, October 25) in a communication on this subject states that Noguchis' announcement leaves us with no more exact knowledge than we had before. She is inclined to believe from her experience that his cultures and successful inoculations therefrom were due simply to dilution of the original material rather than to an actual growth in the cultures.

IV.

TREATMENT OF RABIES.

Recent literature reveals a case of human rabies successfully treated by injections subcutaneously of 5 to 10 c.c. of a 1 per cent. phenol solution. The injections were commenced after symptoms had developed. H. V. Moon (*Jour. Infect. Diseases*, July 13).

Another authority reports that three dogs, which were treated with large doses of quinine, recovered from rabies, while three control animals died. The dosage amounted to an equivalent of 12 to 18 grams daily for a man of average weight. It was administered partly by mouth and partly hypodermatically.

Both writers advocate Pasteur treatment but suggest the trial of the above measures if immunization has been neglected. Moon is inclined to believe from his experiments that he has discovered a positive cure.

In this connection D. L. Harris (*J. A. M. A.*, October 25), makes a detailed clinical report of seven cases of hydrophobia which terminated fatally, and another case which recovered following the intravenous injections of 15 grs. of quinine and urea hydrochlorid, dissolved in 3 c.c. of salt solution. Four doses were administered on the first day, and an amelioration of the symptoms were noted after the second injection. Paraldehyde was administered at night to quiet restlessness. Two more doses of the quinine and urea were given the next morning. He had no return of the pains, or difficulty in swallowing and was discharged four days after his admission.

V.

CULTIVATION OF THE TREPONEMA PALLIDUM.

F. W. Barslack (*Jour. Infect. Diseases*, January, 1913) describes the successful cultivation of the spirochaetae pallida of Schaudin and tries to reconcile the previously reported, but apparently contradictory culture method employed by Noguchi in this country, and by Muhlens and Hoffman, and others in Europe.

His culture media consists of coagulated horse serum and serum agar. The tubes were inoculated by introducing a small piece of fresh luetic tissue. The tubes are placed in a dessicator and the oxygen supplanted by hydrogen gas. Under cultivation at ordinary temperature the growing treponema may be observed to radiate from the tissue in the form of a very faint cloud.

A week after the inoculation of the tubes he used a pipette to withdraw some of the media near the tissue and demonstrated the characteristic motile spirochaetae. Inoculation of this material into the testicle of rabbits produced a typcila syphilitic lesion in which the sprocharte were found.

PELLAGRA.

(REPORT OF CASE.)

By I. A. Arnold, Louisville.

Mrs. M., widow, forty-six years of age, mother of three children; has had all the diseases relative to childhood, a blonde and of slender build; hygienic surroundings fairly good. She had good health until about six years ago, when at the birth of her youngest child she said she was sick five or six months; just following the birth of her child she had convulsions which from her history were probably uremic. She gradually improved but not up to her former standard of health. About November 1st, 1912, she began to be very nervous, she had considerable trouble with her stomach, constipated, kidneys acting freely, and symptoms rapidly becoming worse when her family called me to see her on January 1st, 1913, they were apprehensive of her losing her mind. I found her in a very weakened condition, mind weak, not particularly off on any one subject, but more like a child's mind easily moved either to tears or laughter. She was unable to walk—general tremor on one occasion. I noticed that she cried because she was unable to hold a glass of water. She complained of a peculiar disagreeable odor which she was unable to intelligently describe. Vision and hearing poor, reflexes exaggerated—complained of burning in nose and throat, also extreme pain in chest, arms, and back; also complained of a burning on the surface of the fore-arms to such a degree, that made it necessary to use an opiate to relieve her. She was nauseated and unable to eat, and complained of being unable to breathe good at night. She was much emaciated.

Upon examination I found the heart rapid and weak, the tongue red, in fact, the entire buccal cavity firey red; a slight rise in temperature, also an macular eruption on the forearms of a bright red hue, the spots about 1-4 to 1-2 inch in diameter, resembling sun-burn.

The symptoms above described gradually became worse until about March, 1913, when her condition seemed so intensified that there were grave fears of her death. The emaciation was extreme, equal to that we see in the third stage of tuberculosis. She was unable to sit up in bed, neither could she sleep for the severe pain and burning sensation of the skin.

Menstruation, which had been coming on every three weeks, ceased, but returned July 1st, 1913, but not much stress can be put on this symptom because of her age. March 1st, 1913, her mind gave signs of great mental weakening. The eruption which was confined to the dorsal surfaces of the hands, the feet, and the back of the neck and shoulders, began to spread over the arms, the face, particularly over the nose and forehead and continued until the entire body, except the abdomen, was more or less covered. The temperature, which at first showed a slight rise, became subnormal and remained so to this date. Pulse got faster and weaker, running to about 130 or 140. Examination of urine at first showed slight trace of albumen, but after two weeks there was no trace of any. She remained in this condition until about April 1st, when she began to improve gradually, being able to retain some nourishment. Constipation was relieved by drugs and at this date she is able to walk a distance of four or five blocks. How long she will thus continue I am unable to say, but it is my opinion that it is only temporary relief.

I have not given the family my opinion of the case, but I am about convinced that it is a case of pellagra.

COUNTY SOCIETY REPORTS

Nelson—The Nelson County Medical Society met in the office of B. E. Gore at 10:30 A. M., October 8th, 1913. Called to order by S. B. Crume, President. There were present the following:

B. E. Gore, H. E. McKay, S. A. Cox, R. H. Greenwell and Hugh D. Rodman, of Bardstown; S. B. Crume, and J. J. Wakefield, of Bloomfield; J. I. Greenwell, New Haven; Guy P. Grigsby and W. F. Blackford, of Louisville.

The minutes of the last meeting were read and approved.

J. I. Greenwell reported that he had vaccinated fifty or more persons with typhoid vaccines, all of whom had been exposed to the fever, only two of this number had the disease and they both had fever when the vaccine was given. He had treated three cases with the serum and believed it did good. He gave the serum every 48 hours and had never used more than four doses in one case. He had treated 30 or 35 cases with only one death.

S. A. Cox reported a case of blood poisoning in a man 39 years old, starting from an abscess on the left knee, from a bruise, which was promptly opened and treated antiseptically, in three weeks a second abscess formed on the other knee and in two or three days he had abscesses on both shoulders and finally on the deltoid muscles. All were promptly drained and packed, but some refused to granulate, finally delirium set in followed in a few days by death.

There were six large abscesses in all. This patient was an active healthy farmer who yielded very promptly to the result of sepsis.

B. E. Gore reported a case of sepsis now on hand. I saw the case one week ago. It had then a slight wound on the left inner malleolus, make by the thorn of an osage-orange bush with some swelling, no especial bad outlook. Did not see her any more until yesterday, then I found her leg and ankle swelled, leg spotted, pulse 110, temperature 102 1-5. I gave antistreptococcic serum yesterday evening and this morning her pulse is 98, temperature 100, condition better.

S. B. Crume reported that several years ago he saw a colored woman, with an unexplained abscess on her leg, during the lying-in period, in a few days to abscesses developed on her back; in a short time three other abscesses followed on various parts of her body, five or six in all. Finally made a good recovery.

B. E. Gore: Suppose a patient came to you with a badly abscessed hand, with such an amount of sloughing that one joint was loose, what would you do? Would oyu amputate or not?

Guy P. Grigsby: I believe that amputation is the best thing to do in such a case, a patient of 60 years or age.

B. E. Gore: I was not permitted to amputate.

The hand has healed, but she has a badly flexed finger, curved to the palm and to one side, is now very much in her way. I think that it should have been amputated.

R. H. Greenwell: I had a case of blood poisoning recently from a cut on the arm. Saw it before pus formed and gave serum and I think cut the disease short, as we had no pus and a good recovery.

S. B. Crume: Have any of the members treated gonorrhoea with the serum?

S. A. Cox: I have treated a few cases of gonorrhoea with the serum. All with good results One was a case of several years standing and was cured

J. I. Greenwell: I treated only one case of gonorrhoea with the serum and it recovered.

B. E. Gore: I have treated three cases of gonorrhoea with the serum. All got well, one was a chronic case which yielded nicely.

S. B. Crume called in a small boy and demonstrated Bodine's method of treating an umbilical hernia in a baby, by strapping a marble to an adhesive strip and putting the marble firmly into the opening, and strapping it securely all around the openng so that there can be no escaping or bulging of the abdominal contents.

Guy P. Grigsby believed that a large button with a convex surface better than the marble. This should be attached securely to the adhesive strip, then all fastened securely to the abdomen.

J. J. Wakefield read an excellent paper on "Placenta Previa," which was discussed by nearly all present.

Guy P. Grigsby, of Louisville, read a fine paper on "Fracture Suggestions," which was well received and was discussed by asking the essayist a great many questions. Both of these papers accompany this report.

This was a good meeting. Many good and practical things were said and those who missed it lost, thereby. The town doctors set dinner to the visitors at the Talbott hotel. Adjourned to meet December 3rd.

HUGH D RODMAN, Secretary.

Oldham—The September and October meetings of the Oldham County Medical Society were perhaps the best of 1913, when the scientific side is considered.

On September 9th, 1913, in the office of Dr. J. A. Freeman, Crestwood, the following were present:

R. B. Cassady, J. A. Freeman, J. A. Day, E. D. Burnett and Dr H. D. Berryman, a visitor from Todd's Point.

R. B. Cassady read a splendid paper on "Differential Diagnosis of Appendicitis, Gall Stone Colic and Renal Colic."

J. A. Ray read a brief and well appointed paper on "Acute Gastritis."

J. A. Freeman read a unique and charming paper on "Half a Century in Medicine."

All the papers were freely discussed.

On October 11th, 1913, the following were present:

Drs. Speer, Cassady, Harbold, Freeman, Goldsborough, Blaydes, Connell, Hancock and Burnett. This was the best attendance of the year.

Our President, **J. H. Speer,** delivered a touching oration on "Fifty Years in Medicine."

H. B. Blaydes read a terse and brief paper on "When to Operate in Appendicitis."
This paper was more extensively discussed than any paper of the year.

J. E. L. Harbold gave in brief the "Medical Treatment for Hemorrhoids."

The Oldham County Medical Society grows better and more interesting each month. Out of a paid up membership of ten we had three at the Kentucky State Medical Association.

We recommend brief and terse case reports in writing and short, concise papers. A paper or a case report should simply open the question and leave the rest for discussion.

Resolutions on Death of Dr. W. H. Wathen.

Whereas, in the providence of God, Dr. W. H. Wathen was translated on October 7th, 1913 Be it resolved:

First, That the American College of Surgery has lost a distinguished and skilled workman.

Second, That Kentucky has lost the most zealous advocate of high and noble ideals in medicine and surgery.

Third, That the medical brotherhood recognizes a rich legacy in Dr. Wathen's life work.

Fourth, That the medical profession of Oldham County feels a keen personal loss in Dr. Wathen's death.

Fifth, That our society extend to the bereaved family our sincere sympathy, and express our high esteem for him as a man, a teacher and a member of the profession.

Done by order of the Oldham County Medical Society in regular session October 9th, 1913, at LaGrange, Ky.

E. D. BURNETT, Secretary.

Urethritis, Gonococcal.—Treatment.—Fluidextract of aconite recommended for relief of congestion and irritation; 1 minim every one or two hours for intelligent patients and every three or four hours for unintelligent. Interval to be doubled as soon as tingling, perspiration and a feeling of relaxation appear.—Pedersen.

Epididymitis, Gonorrheal.—Treatment.— Epididymotomy perforated in 16 consecutive cases, 1 bilateral. Result: Sudden and permanent relief from pain; defervesence in two days; rapid reduction in swelling; prompt healing; early convalescence without relapse.—Culler.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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PRACTICE OF MEDICINE
W. F. BOGGESS

VOL. XI. BOWLING GREEN, KY., DECEMBER 1, 1913 No. 24

EDITORIAL.

FRACTURES.

If the activity of the Kentucky State Medical Association shows one thing any more definitely than another it is that almost every doctor in Kentucky needs to consider carefully his methods for caring for fractures. In recent years, these methods have been greatly improved. The January 1st issue of the *American Journal of Surgery* will be devoted to a consideration of fractures by the greatest authorities on the subject. This issue will be worth a great deal to every one who reads it.

A fracture is defined as a solution of continuity. This definition would apply exactly to the line of union which ought to exist between the reading pages of the *American Journal of Surgery* and its advertising pages. It is a pity that a journal of such merit in its editorial department should be considered by many reputable physicians to be weighted down and disgraced by an advertising policy that few reputable lay publications would countenance for an issue. We feel such an interest in this journal that we confidently hope at some future time to be able to say to the profession of Kentucky that it is honest as well as interesting.

COUNTY SECRETARIES.

Have you ever spoken a word of gratitude to your County Secretary? If your society is any good at all, he has had most to do with its success. It will help him a lot if you will say this to him. Don't make him dun you time after time for your dues. He doesn't get anything for collecting them and if you don't pay them promptly, you not only lose numbers of the JOURNAL and your right to defense in cases of unjust malpractice suits and your good standing amongst your fellow physicians but you lose an amount of prestige with the people that cannot be calculated in dollars and cents. People are rapidly getting to understand that the doctors who are too busy to attend their medical societies are poor doctors; that the best physicians find time somehow to do all those things that are essential to keep up with the wonderful progress in modern medicine. Help your County Secretary make better programs by writing better papers, by keeping better notes so that you can make better case reports. Try this for a year and at its end you will find that by helping your County Secretary you have helped yourself to be a more effective and efficient doctor.

HOOKWORM.

We frequently wonder how much the individual doctors, themselves, appreciate the lessons that have been drawn from the Hookworm dispensaries in the twenty counties in which they have been held, although in some of them the per cent. of infection has been less than 1 per cent. On an average, over the entire State, approximately 200,000 specimens examined from every county in the Commonwealth, more than one-third show hookworm infection and more than one-half show that they were from individuals who were the hosts of intestinal parasites of some sort. Under these circumstances, it is not a square deal to treat a patient with any chronic ailment, whose symptoms indicate indigestion, anaemia, stunting or dwarfism, loss of energy or any of the other diseases, the basis of which is either anaemic or chronic septic infection without an examination for hookworm. Our records show that 1100 Kentucky physicians are looking out for and treating patients affected with intestinal parasites. What are the others doing?

It is unquestionable that many cases clinically diagnosed as tuberculosis are really cases of hookworm disease. Send in specimens both of sputum and feces to the State Laboratory for examination in these cases and let it assist in clearing up the diagnosis.

OUR ADVERTISERS.

Another National Thanksgiving has just passed. Among the greatest causes of gratitude to the physicians of Kentucky, we feel sure, is the Kentucky Medical Journal. It has increased in size, in interest, in its worth and value to the busy practitioners, who control and read it. Its material growth has been due to the money paid by those who advertise in it. We wonder how many of the doctors in Kentucky realize this. We know a great many do because our advertisers tell us so, and because they continue to pay us for their pages so that we are able to print the Journal. It is important that every reader read the advertising pages. They are as carefully edited as the editorials. Nothing can get in them which is not straight goods. If every Kentucky doctor will patronize advertisers in the Kentucky Medical Journal, we can continue to improve it until it is the best of Journals.

When Thanksgiving Day, 1914, rolls around, is it not up to us, members of the Kentucky State Medical Association, to make our advertisers grateful for the support they have given our Journal?

DOCTORS AS LEGISLATORS.

That a number of physicians have been elected to the approaching session of the Kentucky General Assembly is a matter worthy of note. The high character of the men selected and the promise of effective work in Frankfort by them is gratifying. It is within the memory of the Editor when the medical men who went to the Legislature were sent largely because they did nothing at home but within the past five or six sessions all this has been changed and the medical group of legislators have been amongst the leaders. Appreciating, as only a good doctor can, the needs and trials of the great common people, who furnish most of the sufferers from preventable diseases, they have been found in the forefront of every fight for the betterment of housing and social conditions and in this session they will be found on the firing line, we feel sure.

Kentucky is to be congratulated that such a number of busy, practicing physicians are willing to leave their homes and stay in Frankfort for this period of servitude for the common good.

TUBERCULOSIS.

The Kentucky Tuberculosis Commission is to be congratulated upon the wonderful campaign it has waged in Christian, Henderson and Fayette counties for the establishment of tuberculosis districts, which will soon build tuberculosis sanitaria in which to educate our people as to the care, cure and prevention of tuberculosis. The overwhelming vote in these three counties is not only a welcome protest against the economic and social losses from the most serious epidemic disease now prevalent in our State but it is also a vote of confidence in the organized medical profession, which engineered the campaign in each of the three counties under the guidance of the State Commission. It is hoped that it will only be a few years until every county in Kentucky is a tuberculosis district and already it is evident that within the next few years the percentage of sickness and death from this disease will show marked decrease.

The work of Dr. Everett Morris in Henderson county and Dr. D. P. Curry in Christian are noteworthy advances in Kentucky medicine.

SCIENTIFIC EDITORIALS.

THE PSYCHOPATHOLOGY OF THE JEWISH RACE.

With the wonderful advances that have been made in the study of psychopathology and psychology from the individual standpoint, and the remarkable results that have been obtained in certain neuroses and psychoses through the studies and efforts of Freud and Jung, a great many studies have been made of the relationship of myths, fairy tales, race, etc., to psychopathology.

The latest contribution is an article in the March, 1913, *Popular Science Weekly,* by Dr. J. G. Wilson, of the Public Health Service of Ellis Island. Wilson starts his article with the generally accepted statement that the preeminent principle of to-day is prevention and that this is especially to be considered because of the failure of a great many insane and feeble minded to recover. Prevention is certainly not a hopeles undertaking. All are practically agreed of the importance of a good heredity, which is the one essential basis factor in the prevention of feeble-mindedness, speaking in a general sense. No one can but agree with Rosanoff that "An individual who comes from normal stock, abstains from alcohol, is free from syphilis, and escapes accidental head injury is not threatened with mental alienation." There have been a number of interesting contributions of recent years to the terrible results that occur from a mating of the unfit and the time has now come when doctors must be a little more outspoken against the marriage of the unfit, diseased and deformed.

Wilson lays down the bold assertion, and seems to reasonably prove it, that the Jews are a highly inbred and psychopathically inclined race and that the prevalence of mental affections among them is almost entirely due to heredity. From 536 years before Christ to the present day, there has been a strong feeling among the Jewish people against the admixture of other race blood and there can be no doubt that the Jews have married and intermarried and inbred among themselves up to the present time. "Since the time of Napoleon and the consequent removal of the legal disabilities of the Jews, there has been no increasing tendency to take outsiders into the Jewish blood. Even in New York where the social and business relations between Jew and Gentile are, perhaps, closer than in any other city in the world, there is practically no tendency to encourage mixed marriages; this serves to show that the result of all this marrying has been a constantly increasing practice of inbreeding, with a consequent, frequent consanguineous marriage. * * * It is well known that they really do marry their own cousins, much more than do the peoples of other races. Jacobs says that they are probably three times as guilty in this respect as others. I think we must concede the point that they are a healthy inbred and closely related race. This fact undoubtedly accounts for the very strong racial characteristics which they possess. If they are endowed with exceptionally great mental gifts, it is beyond the scope of this paper to consider them." From the statistics taken from the New York State Hospitals for the Insane, Wilson reaches certain conclusions concerning the proposition laid down by him for solution in his article and one cannot but confess that they are strongly suggestive, although one must remember Lord D'Israeli's remark that there "are lies, dam lies and statistics." The observation that the Jewish race is practically free from alcoholic psychoses, meets with the writer of this editorial's experience. A long number of years of observation shows that in spite of the absence and freedom from alcohol, the Jew still contributes much more than his share to the general insane population, especially along congenital lines. Among the frankly feeble-minded, the Jews stand next to the top of the list of those immigrants who are deported on this account, and in the public schools of New York their number is disproportionately large. The number of Jews suffering from mental defects are largely recruited from the ranks of the inherited types. "The idea of superiority to other people is so inbred in them that it has probably become a hereditary character for which the individual is entirely irresponsible. But a paranoid make-up is not particularly dangerous to its possessor who is otherwise normal, unless by great stress or very unusual combination of disagreeable experiences, this tendency be diverted into abnormal channels."

The chief danger lies in the accentuation of the character by too close inbreeding with those having a like tendency. In fact, the general attitude of the person who has this paranoid make-up in a mild degree may be said to be an enviable one rather than otherwise. He is aggressive in upholding his rights, suspicious of attempts to thwart him in the pursuit of the same, and strives constantly to reach the goal of his ambitions. These are all admirable traits. It is only when they became accentuated to the point where they are pervaded by delusions of grandeur and persecution, that they render the person possessing them a menace to society.

To return to the thought expressed at the beginning of this paper, that the prevention of mental disease is quite the most important part of their treatment, it would seem that the Jews have it in their power to ultimately stamp out the feeble-minded and insane from among their race. The way in which they can do this must be plain to whoever has followed the gist of the argument. It is all a question of eugenics. A little more care in the matter of consanguineous marriages and a thorough departure from the old beaten tracks which forbid the introduction of non-Jewish blood in their veins, will, in the course of a few generations, redeem them from the unhappy mental state into which many of their children have fallen. That the Hebrew of to-day is elevating himself and taking advantage of every opportunity for betterment, is a source of daily observation. That the cultured and refined members of this race are in the forefront of business and professional life is too well known to need more than mere passing mention. It is to be hoped that the Jewish people will gradually be assimilated with the other races and in thus wise the blood of their own inbreeding will be overcome and they in turn will confer some of their valuable characteristics to the other races.

CURRAN POPE.

WHAT IS THE ETIOLOGY OF ACNE?

Adamson, an enthusiastic follower of bacillary origin of acne, in his Couldstonian lecture, delivered before the Royal College of Physicians, of London, March 12, 1912, beautifully described the process of acne: "The blackhead or comedo of acne vulgaris represents another example of local defense by the horny cells. The pilo-sebaceous follicle is plugged by a cocoon-shaped body which is made up of concentric layers of horny cells encapsulating a mass of acne bacillus. It may be looked upon as a reaction upon the parts of the horny cells to the invasion of the follicles by the acne bacillus. It is perhaps an attempt to cut off the acne bacillus from the deeper structures."

Unna divides the acneic process in two parts: (1) closure of the sebaceous follicle and formation of comedo; (2) suppuration which only occurs in those follicles where the staphylococci aureus and albus have penetrated before the comedo formed.

Menahim Hodara, another enthusiast of bacillary origin of acne, claims that in true acne the bacillus described by Unna, is always found. It always occupies the position of the comedo,—namely, the bottom of the central cavity, only reaching the upmost part in markedly-developed comedones.

Smiley's theory of acne is, that the acne bacillus or its toxin causes the comedo, while the acne postule is the result of secondary infection with pus forming organisms—staphylococcus albus, aureus and citrous—usually the first mentioned.

While the bacillary origin of acne has been the pet theory of many dermatologists for the last decade, the conservative dermatologists are not inclined to accept their theory. While Adamson, Unna, Gilchrist, Sabauraud, Hodara and Engman insist that the bacillus acne is the primary cause of acne, Malcolm Morris Leslie Roberts and other investigators claim that the bacillus is a secondary or a third bacteriological factor. Roberts is of the opinion that acne is due to epithelial secretion of the fat beyond what could be consumed by the integument; a deposit of unused fat collected in the ducts of the glands, giving rise to microbic invasion. Malcolm Morris expresses the opinion that acne is a local disease whose anatomical element is a sebaceous gland, the physiological elements being the over-secretion, while, probably, there is a third bacteriological element.

Kaposi who was undoubtedly the most logical writer on dermatology, thought acne to be an anomaly of secretion and excretion of sebaceous glands, and that the inflammation is provoked in the issues surrounding the sebaceous glands and hair follicles with their common excretory duct by the retained secretion mechanically or by chemical decomposition.

He and a good many other dermatologists were in doubt of its real etiology, since the affection occurs at the time when the functions—sebaceous secretion and hair growth, are active. On this account, different writers were in dispute whether it should be classed as a local developmental aberration solely, or intensified or excited by the general state.

I really cannot see how acne can be classified with the eruptions due solely to invasion of microorganisms. True, acne bacillus of Unna, Gilchrist and others may be found in acne, but the skin of those not afflicted by acne is just as rich in microbic species as those of acneic patients; and since the skin of acneic patients is really reacted and more vunerable, the bacilli have an easier access and produce that peculiar condition as we find later, in neglected acneic patients. Had acne been strictly due to bacterial invasion, we would have met cases in all stages of life, and we all know well that acne always begins near puberty when the pilor system is more actively developing and the functions of the sebaceous glands likewise. To my mind, acne should come under the head of erythemas and urticarias and, like the last two cutaneous reactions, it may be due to manifold causes. Like in erythemas and urticarias, the factors that produce acne may be either endogenous or exogenous. To endogenous group, following factors may be mentioned: faulty metabolism, ingestion of drugs that may cause faulty metabolism such as iodine and bromine preparations; certain foods that may produce toxemias; mechanical irritation caused by the products of secretions remaining in the excretory canals or glands; constipation, menstrual disorders, vesiculitis.

To exogenous group, we may mention the following factors: handling tar and tar products, paraffin and paraffin products; sulphur and other metals. Irritation of the skin in such cases is due to the dust with which the factories and shops are permeated.

Since acne is due to manifold causes, its therapy cannot be rational until we ascertain and treat the real cause.

M. L. Ravitch.

Actinomycosis.—Treatment.—X-ray treatment recommended in cases resisting customary iodide medication and recurring after operative intervention.—Levy.

ORIGINAL ARTICLES

SYMPOSIUM ON DIFFICULTY OF URINATION IN THE MALE.

CONTRACTURE OF THE VESICAL NECK.*

By George H. Day, Louisville.

The obstruction of the vesical outlet, whether mechanical, due to stenosis, or degeneration of the internal meatus, to disturbances in the ganglion centers, or to malignancy or to an inflammatory condition, is surely a question that of late has aroused tremendous interest among surgeons. Since Guthrie first called attention to obstruction at the vesical neck, numbers of investigators have introduced various causes for this class of very annoying symptoms, and through the intervening years from Guthrie to Young all have advanced more or less radical treatment for these obstacles to evacuation of the bladder. The Guyon School attributed the condition to an atrophy of the vesical muscles, a lack of bladder tone rather than obstruction at the neck. Mr. Reginald Harrison[1] classifies obstruction in three groups,—1st, spasmodic; 2nd, mucous; 3rd, muscular. The first, or spasmodic variety, he claims is found chiefly to exist in gouty or rheumatic conditions, appearing as an irregular or spasmodic action of the muscles at the vesical neck during the act of micturition, and is not in any sense due to prostatic involvement, as it is usually found where there is no hypertrophy present. The second, or mucous variety, he claims is formed as its name implies, from a more or less distinctively formed duplicature of the mucous membrane, and has always been found to be associated with, and dependent upon, prostatic hypertrophy. He claims this variety appears to result from lateral enlargement of the prostate and the "buckling" up, so to speak, of the floor of the urethra. It is crescentic in shape generally and may even have a distinct valve shaped flap at the vesical urethra orifice. The extent of the mucous bar he says does not necessarily depend upon the amount of hypertrophy present; a certain extent of elevation of the mucous membrane called the vesical valve is found at this point in health. The third, or muscular variety, Mr. Harrison says, is sometimes known as the limited hypertrophy of Guthrie, existing always in connection with prostatic enlargement—although strictural, it is not connected with the prostate. Here a bar is formed at the neck of the bladder by the excessive development of some of the muscular fibres which run transversely across the trigone behind the prostate either forming a more or less prominently marked elevation and dividing the bladder at this point into two separate and distinct compartments, an upper and a lower one. Mr. Harrison's explanation and classification of contractures of the vesical neck is probably the most correct one. He furthermore says that the formation of muscular tissue at this point is due to a conservative effort on the part of Nature to empty the pouch which forms at the trigone and the posterior limit of the prostate in cases of enlargement of the bladder where urine tends to collect. The American School have claimed that aside from prostate enlargement and diseases of the central nervous system, a retention may be caused by a circular sphincter and prostatic stenosis, with complete and incomplete obstruction, occurring in the young as well as the old, an inflammatory infiltration or stricture of the vesical

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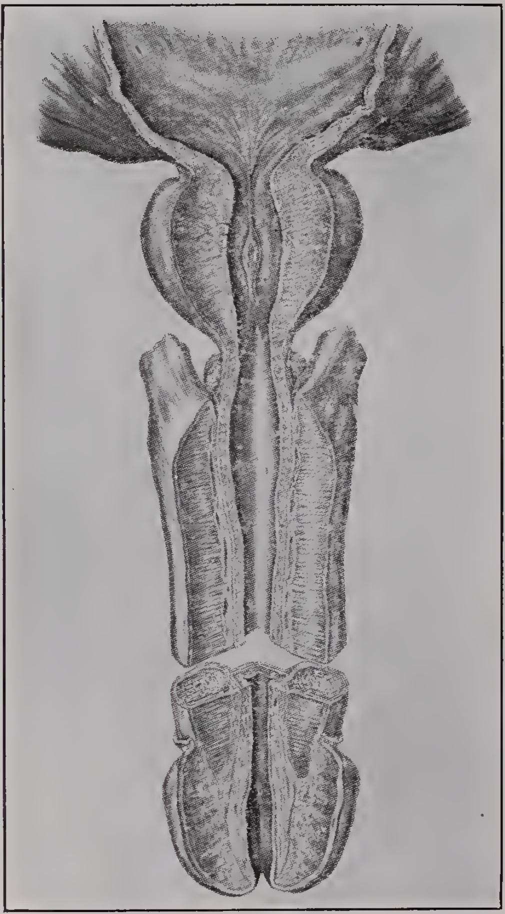
*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

neck closely allied to stricture of the anterior urethra. Watson[2], in describing this obstruction, says that this term is applied to a modified form of hypertrophy which unites the intervesical portions of the enlarged lateral lobes *or which may occur* in the absence of lateral hypertrophy. Succeeding events clinically have proven that Mr. Harrison is probably correct in his deductions. It is not within the scope of this communication to take issue here with those who have investigated and described at length the various etiologic factors in question.

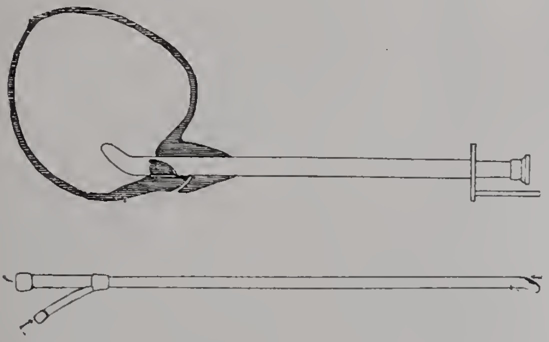


PATHOLOGY.

We are indebted to Young[3], of Baltimore, for the first extensive and comprehensive material of this sort ever presented for study. He introduced specimens obtained by means of his operation which gave splendid opportunity for microscopic study of the lesions in the median portion of the prostate. In a series of 100 cases reported by him in the section on Genito-Urinary diseases of the American Medical Association in 1912, he materially enlightens us as to the pathology in this series of conditions. He proved the most common was that of a dense layer of newly formed connective tissue immediately beneath the mucous membrane, evidently forming a firm fibrous ring associated with elevation of the median portion of the prostate. Ten cases of this character were discovered, most of them in men past middle age, the youngest being forty-four. In these cases the sections showed no prostatitis and no connective tissue infiltration in the muscle or gland tissue, the lesion consisting essentially of a submucous fibrosis. He further showed a second type which occur with about the same frequency as the fibroid type just described, was one in which in addition to a submucous connective tissue layer, there was found a chronic inflammatory condition of the gland tissue, often with marked fibrous infiltration occasionally extending into the muscle. The third type of lesion he claimed was one in which there was a distinct hypertrophy of the submucous gland tissue, involving either the subureteral or subtrigonal groups of glands, or both. A summary of his results disclosed the interesting facts that inflammatory infiltration leading to fibrous tissue formation either in the submucosa or in the glandular layer beneath it and occasionally in the musculosa, forms a most characteristic lesion and that Mercier was right in saying that the obstruction in many cases was glandular in character, but wrong, however, in his assertion that in many of the cases the lesion was due to a muscular hypertrophy, which results have shown to be extremely rare.

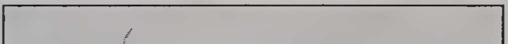
EXAMINATION.

In this class of cases we have clinically a condition of middle life and more often found in young men. Examination discloses the fact that in many instances that per rectum the prostate, if any, is very slightly enlarged. However, upon introduction of the catheter we obtain at times an enormous quantity of residual urine,—sometimes more than 500 c.c. In most of these cases they come to us with a bladder irritation, pain and discomfort, difficulty on urination, some possibly with complete retention, all having a marked frequency, all various amounts of residual urine. In the diagnosis of this condition we find the cystoscope to be of the greatest aid,—in fact, without it the diagnosis is very apt to be incorrect. It is necessary in this particular condition to have an instrument of the so-called "close vision" type. The Buerger cysto-urethroscope I have found to be the ideal instrument. With it we are enabled to examine an irritable bladder with little or no distension medium. In fact, 30 to 50 c.c. of fluid is all that is necessary. Fenwick[4] has stated that no patient over 45 suffering from nocturnal incontinence, great thirst, and morning nausea, should be subjected to cystoscopy. It has been my experience, however, that cystoscopy in most any vesical condition in the hands of a competent, gentle, careful cystoscopy is as well tolerated as a catheter, emphasizing of course, that the chief danger arises always from rough handling and forcing the instrument through the prostatic urethra. Therefore, in any obstruction to the vesical neck the cysto-urethroscope is always indicated. The usual technic in the preparations for a cystoscopic examination are made. Usually it is best to examine the urethral orifices first, then the trigone, base of the bladder vesical neck, prostatic urethra, in rotation. In the bladder the cystoscopic picture in conditions of this sort is usually of the typical vesical cystitis, the bladder walls greatly hypertrophied and thickened, with trabeculations throughout the cavity. The inner spaces between the trabeculae frequently disclose the openings of bladder diverticulum, sometimes containing stones. Our examination is next directed to the vesical neck, the enlargement of the lobes of the prostate noted, and any abnormalities in the prostate, viewing the entire vesical orifice by turning the cystoscope through a complete circle. In the examination of the median bar enlargement care should be taken to study carefully the position to the lateral lobes of the prostate and its relation to the trigone and urethral openings, whether there is an apparent malignancy, if the obstruction is freely movable, whether a stone is lodged at or near the orifice,—in fact it is only possible in this condition to hope for a correct diagnosis by experienced, careful and methodical examination of the bladder and vesical neck. The urinary examination in importance ranks second to the cystoscopic. Microscopic examination of the urine is of great help in disclosing the site of the pathology. The urine is usually the one found in chronic catarrhal cystitis. Mucus predominates, epithelium from upper and middle layers of bladder, prostatic and urethral epithelium, especially the former, in great numbers, pus corpuscles, and at times a few epithelium, from the kidneys and ureter. I take it that kidney epithelium found in this condition is due mainly to increased compensation, various amounts of putrefactive microorganisms and the crystals of simple and triple phosphates and ammonium urates usually found in alkaline urine.

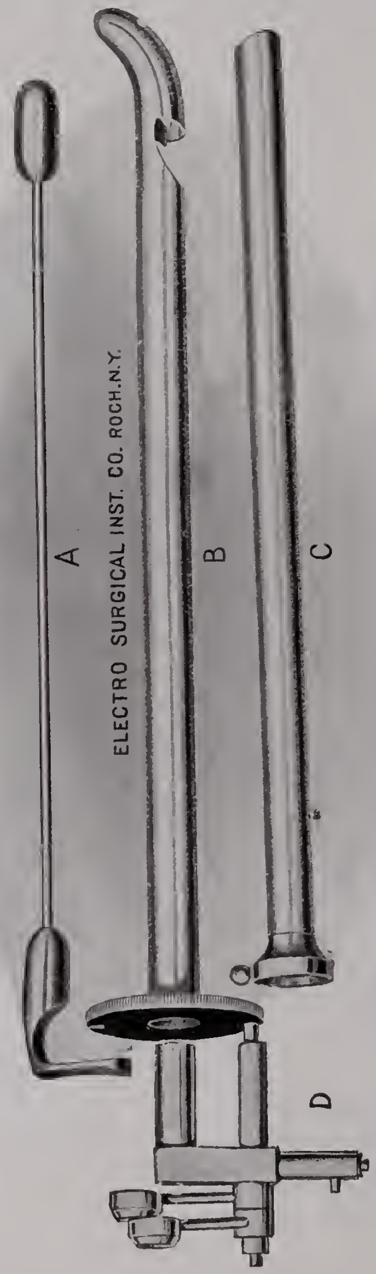


OPERATION.

The first surgical procedure for relief of this condition, by Guthrie in 1834, was accomplished by the aid of a catheter carrying a concealed blade very much on the order of the urethrotome of Otis. Mercier, a few years later, devised a special instrument which he called a prostatotome. All of these instruments of that period of this particular branch of surgery were very much of the same order of the internal urethrotome and as a result of the trauma fell into disuse. Many years later, about 1873, Bottini introduced his operation which for many years was enthusiastically practiced. This method was the use of a galvano cautery incisor, which divided the constriction by the aid of the electric current. This method was in vogue for many years and at this time is favored by many operators. Fuller devised a deep division of the median portion of the prostate and vesical sphincter through either a suprapubic or perineal incision. Chetwood[5] advocates the modified Bot-



tini operation,—that is, with local anesthesia, a small perineal cut is made which brings the operator close to the site of the trouble and allows the introduction of the index finger to investigate the condition at the neck of the bladder and the degree of existing constriction. He then introduces the galvano cautery knife and under electric cauterization the vesical constriction is excised on one or both sides to such an extent as may be deemed advisable. He claims this is accomplished without hemorrhage during or after operation.



Many of these operations fell into disuse through various reasons. The results obtained by means of the Bottini operation were not entirely satisfactory because a number of cases in which incontinence of urine resulted for quite a long period. The blind operation of the early operators of course was unsurgical. Many destructive changes were noted and it met with a deservedly early fate,—the perineal route likewise being unsatisfactory because many times the lateral lobes were sacrificed frequently when not enlarged. Therefore, the surgical world was only waiting for the logical instrument for this very sadly neglected condition. Several years ago Young[6] introduced to the profession his urethroscopic excisor, which consists of an outer tube about 18 c.m long, with a coude curve at its inner end and a urethroscopic disc at the other, containing a post on which an external urethroscopic light can be attached. Near the inner end of the inner surface a large deep fenestra is provided. Within the instrument is a second tube which has a sharp cutting inner end made of steel, which when pushed home can excise anything appearing inside of the outer tube. The object of this instrument is, when pushed through the urethra into the bladder to engage the median bar in the fenestra and then to excise by means of the inner cutting tube while observing the operation through the inner tube illuminated with the external urethroscopic lamp. This operation is amazingly simple, being done under local anesthesia, without pain, very little subsequent hemorrhage, and the results have been splendid in the cases reported. The operation is under the eye of the operator at all times and the mortality is nil, and the results perfect, with no destruction of adjacent healthy tissue. The technic of the operation by Young is comparatively simple. The instrument is usually inserted with the cutting obturator, pushed home until the end of the instrument is felt to enter the vesical orifice. The inner tube is then withdrawn about two c.m., the electric light attached externally, and an inspection made. As a rule the verumontanum will be seen bulging into the fenestra. The instrument is then pushed slowly inward, the verumontanum is seen to disappear, and the median portion of the prostate gradually enters and finally fills the finestra completely. If the instrument is pushed a little further inward, urine escapes, showing that the instrument is in the bladder. When it is turned outward the flow of urine ceases, showing that the inner edge of the fenestra is caught against the median bar, a good view of which is easily obtained after aspirating the fluid from the interior and drying with swabs. The inner cutting tube is then rapidly pushed home and excises in one piece the tissues caught in the fenestra. With alligator or rongeur forceps inserted into the instrument this tissue is removed and is usually about 1-2 to 1-5 c.m. long, one-third of its circumference being covered with mucous membrane, partly vesical and partly urethral. Experience has shown that one cut is usually not sufficient, and it is wise next to turn the instrument first to the right and then to the left in order to remove more of the median bar on each side. The lateral cuts never excise as much as the posterior median,—usually about one-third as much. The cutting tube is then removed; the bladder is washed out through the outer tube, and when apparently clear of clots the obturator is introduced and the instrument withdrawn. A two-way urethral catheter is then introduced through which continuous irrigation is begun. This is kept up for twenty-four or forty-eight hours. A sufficiently large catheter is used to prevent clotting and to remove same if it does occur. At times the catheter may become plugged, but a large hand syringe can be used to evacuate the clots. Hemorrhage is ordinarly comparatively slight and the patient is walking about on the third day. Experience has shown cystoscopically that the median bar is so completely removed that no recurrence occurs unless some portion of the surrounding prostate interferes.

CONCLUSIONS.

The use of the Bottini cautery, perineal section, superpubic incision is absolutely obsolete and unsurgical. The results offered by the urethroscopic excisor offers the best results, with the minimum risk to the patient. The destruction of adjacent tissues is practically impossible in careful hands, and the use of a four per cent. novocain solution renders the procedure painless. The patient is rarely confined to the hospital longer than three or four days, the use of continuous irrigation prevents blood clots, and makes the after treatment comparatively simple. In cases properly selected, even with complete retention, and living a catheter life, the results are entirely satisfactory. The operation is so simple that granting occasionally it must be repeated, and even then the entire procedure can be compared to passing a cystoscope, I say if it must be repeated in some cases, and ends justify its use, for with all things considered, with the bladder function returned to normal, and mortality that is nil, we have a surgical procedure that is remarkable in its simplicity.

BIBLIOGRAPHY.

1. Morrow, *Genito-Urinary Diseases*, Vol. 1, p. 544.
2. Watson & Cunningham, *Genito-Urinary Diseases*, Vol. 1, p. 311.
3. Young, *Journal American Medical Association*, Jan. 25, 1913, Vol. 60, p. p53.
4. Pilcher, *Cystoscopy*, p. 226.
5. Chetwood, *Journal American Medical Association*, Jan. 25, 1913.
6. Young, *Journal American Medical Association*, Jan. 25, 1913.

Arthritis, Chronic.—Treatment.—Certain joint cases, rebellious to all other treatment, can be arrested by proper diet combined with calonic lavage. Breakfast: Cereal, small amount; toast with butter; imitation cereal coffee. Between breakfast and lunch: Buttermilk, 2 glasses; water, 1 glass. Lunch: Clear soup ,or lettuse or spinach); 1 roast.

DIFFICULTIES OF URINATION IN THE MALE.—PROSTATIC HYPERTROPHY.*

By H. G. HAMER, Indianapolis, Ind.

The size of the enlargement of the prostate is not indicated by the activity of the symptoms, owing to the fact that the urethral passage is not necessarily seriously affected even though the enlargement be considerable and many instances are found in post mortem examinations in which enlargement of the gland is marked and yet there have been no symptoms thereof during life. A very moderate enlargement on the other hand which extends into the prostatic urethra or becomes elevated behind the vesical orifice may be sufficient to cause serious trouble.

The pathological changes consist of a general enlargement of the entire organ or the increase in size may be confined to one or both lateral lobes or to the median portion.

The character of the enlargement and its size and consistence depend upon which of the normal tissues of the prostate have been chiefly affected by the process of hypertrophy.

Of greater importance than the size of the prostate is the change it works upon the urethral outlet of the bladder. Under normal conditions the vesical orifice is on the same plane as the floor of the prostatic urethra, the latter being capacious and distensible. By the changes of prostatic enlargement the vesical orifice is elevated and contracted by the encroachment of a concentric growth or by fibrous thickening due to cystitis or prostatis, or is partially or entirely closed by the valve-like obstruction of a small or large intravesical middle lobe growth.

The symptoms of prostatic hypertrophy are those mainly due to mechanical obstruction but are augmented by infection producing pain, frequently of urination with purulent or decomposed urine. It is apparent that the severity of symptoms will ordinarily bear a direct relation to the character and degree of obstruction. As stated before this does not necessarily indicate the size of the growth, as the growth may be a small pedunculated middle lobe acting as a ball valve obstruction producing complete retention and if the element of infection be added the symptoms of pain and urgent desire to urinate will become extreme, whereas a symmetrical general enlargement may reach an enormous size without producing more than slight increase in the frequency of urination.

Frequency of urination, particularly noticeable at night, is a symptom peculiar to prostatic hypertrophy and the frequency in urinating is proportionate to the amount of residual urine, the bladder capacity and the degree of infection. In the early stages when obstruction is slight, the frequency may amount to no apparent increase in the daytime and probably not more than once or twice at night.

As the growth increases in size and venous congestion is added or infection with cystitis occurs the frequency of urination becomes markedly increased until the individual is passing small amounts of urine several times an hour.

Why frequency of urination should be greater at night than in daytime is not easily explained. It may be that it is not actually greater at night but more noticeable because the patient's rest is disturbed. But in many cases the sleep is not disturbed for several hours, following which the intervals between the acts of urination are much shorter for the remainder of the night. It is possible that the overfilling of the bladder during the early part of the night is accompanied by circulatory engorgements of the prostate and adjacent bladder region, which adds to the obstruction preventing the usual freedom of urination. The added accumulation of residual urine leaves but small space between mean and extreme capacity of the bladder and the urine must be voided oftener.

Finally as the amount of residual urine increases a point is reached where very little urine is passed voluntarily but as a more or less constant dribbling.

Difficulty of urination is caused in the first place by obstruction to the outflow of urine and is evidenced in beginning prostatic hypertrophy by difficulty in starting the stream. Later on the continued efforts and straining against the obstruction results in a weakened condition of the bladder wall and a consequent lack of force and size of the stream, also the final muscular contraction at the close of urination loses its impelling force and the stream ends not in a jet but a dribble.

Pain is generally a consequence of infection with cystitis and urethritis and may be present during or at the close of urination as a burning or scalding, but is sometimes constant in the form of a dull aching in the rectum, perineum or glans penis.

When vesical calculus is present as a complication, pain is characteristic of this condition caused by irritation of the foreign body against the congested bladder mucosa.

Hemorrhage is not usual at the end of urination unless the enlargement of the prostate is complicated by vesical calculus or ulceration or injury to the mucous membrane has been produced by the passage of urethral instruments. However, hemorrhage occasionally exists as a prominent symptom and is due to the giving way of small varicose veins in the mucosa over the surface of the enlargement.

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

Changes in the urine are characteristic of the renal and bladder changes caused by the obstruction to the outflow from the bladder. In well advanced cases with a considerable amount of residual urine where infection has not yet occurred, the urine is likely to be fairly normal in appearance but low in specific gravity and deficient in solids with a moderate number of renal, bladder and prostatic epithelium present. When infection has occurred, decomposition takes place within the bladder the urine becomes purulent and offensive in odor.

DIAGNOSIS.

A gradually increasing frequency of urination particularly at night in a man past fifty years of age should always suggest the presence of hypertrophy of the prostate. Digital examination per rectum of the prostate and the use of the catheter to determine the presence or absence of residual urine are usually the first steps toward diagnosis.

Rectal palpation should be made before the bladder is emptied. It gives a general idea of the outline and size of the prostate, also its consistence, elasticity and conformity. It cannot be depended upon as giving much information of value in determining the character or amount of obstruction produced.

By the introduction of the catheter the permeability and course of the prostatic urethra, the muscular tone and contractile power of the bladder, the bladder capacity and the urethral length are determined in addition to ascertaining the amount of residual urine.

The introduction of the catheter should be undertaken with every precaution to prevent irritation and infection. This is especially important in cases with dilated and uninfected bladders. Such individuals are peculiarly prone to infection and the too rapid emptying of the chronically distended bladder frequently results fatally. The sudden withdrawal of support to the blood vessels of the whole upper urinary tract produces an active congestion favoring infection if not immediate hemorrhage. In such cases the bladder contents should be withdrawn very gradually, a few ounces at each catheterization or if entirely emptied at once the bladder should be partially filled with a mild antiseptic solution.

The patient is directed to void as much urine as possible and a catheter then gently introduced. After the catheter has been introduced the bladder is emptied and the amount of urine measured. This represents the residual urine. This should be confirmed by more than one examination as the amount of residual urine may vary from time to time with conditions affecting the congestion of the prostate.

While the urine is flowing observation should be made of the force or whether it is necessary to make pressure above the pubes to completely empty the bladder. With the catheter still in position the bladder capacity is tested by injecting as much as can comfortably be retained of some mild antiseptic solution and making note of the amount thereof.

The measurements of the urethral length is obtained by slowly withdrawing the catheter to a point where the flow of urine is barely allowed to continue from which the urethral distance is measured when the catheter is removed. With a catheter marked with granulations the urethral length may be determined at once. (The soft rubber catheter here presented was devised by Dr. W. N. Wishard several years ago. It is graduated in centimeters). The normal urethral length is between 18 and 20 centimeters (about 8 inches) and any considerable elongation signifies that much increase in the length of the prostatic urethra.

The interior of the bladder may be palpated with a metal sound or a stone searcher. By the use of the stone searcher the general direction and length of the prostatic urethra may be recognized, and after its beak has been introduced into the bladder and rotated from side to side marked projections of the prostate into the bladder can usually be appreciated. If calculus is present and not lodged in a deep post prostatic pouch, its presence may be detected.

The information obtained by rectal palpation, the use of the catheter and the stone searcher gives only a general idea of the character of the obstruction and its relation to the outlet of the bladder. By the use of the cystoscope much more exact information is obtainable. The size and shape of the growth as well as its position in relation to the vesical orifice are made out with a fair degree of accuracy.

Cystoscopic examination will also detect changes in the bladder wall due to the obstruction and consequent over-work characterized by trabeculae and diverticulae. In some cases calculi that could not be felt with the stone searcher on account of the depth of the post prostatic pouch, may be discovered by the use of the cystoscope. More recent development and perfection of the cystoscope in the form of retro-spective lenses make it possible to get a good backward view which aids materially in determining the relation of a growth to the vesical orifice.

By the use of the Wappler irrigating cystoscope with short focus lens, the entire prostatic urethra as well as the bladder may be studied.

Profuse hemorrhage accompanying prostatic enlargement suggests the existence of some other condition such as neoplasm of the bladder. In such cases cystoscopic examination is of great importance. In the case of malignancy of the prostate it is probable that more reliance can be placed upon the texture of the growth as felt by rectal palpation than upon the appearance of the growth as seen by cystoscopic examination, but where extension within the bladder exists the cystoscope will usually disclose it.

TREATMENT—PALLIATIVE.

Palliative treatment includes efforts to build up the patient's general physical condition, attention to the diet, the skin and the bowels, the correction of an irritating urine, but more particularly the use of the catheter for periodic emptying of the bladder.

The frequency with which the catheter should be used depends upon the amount of residual urine and whether or not infection is present, but in any case often enough to prevent over-frequent urination.

If retention is complete and no urine passed voluntarily the catheter will have to be used several times a day. When infection and cystitis occur the catheter should be used still oftener to insure bladder comfort and irrigations of the bladder with a mild antiseptic solution will become necessary.

The selection of a catheter for a man who is beginning catheter life is a matter of considerable importance. The plain, soft rubber catheter is best, provided the urethra will permit its passage. Where the urethra is distorted, angular or compressed, the selection of a suitable catheter is difficult. A variety of catheters should be tried until one is found to pass easily, first the elbowed soft rubber catheter, then the single and double elbowed woven catheter and finally the long curve metal prostatic catheter.

The flat woven elbowed catheter designed by Dr. Wishard has a wider range of adaptability in different cases than any other.

With the establishment of catheter life, precautions toward safeguarding the patient are necessary.

In addition to being taught to handle his catheter in an aseptic manner, he should know the danger of intemperance in both eating and drinking, that he should avoid constipation, fatigue, chilling and taking cold, all of which contribute to his bladder discomfort.

Palliative treatment should be in the majority of cases a temporary measure. With the knowledge that life after becoming dependent upon the catheter is on the average not over three years and considering the restrictions its use places upon them most men will submit to operation to get rid of the frequent use of the catheter.

Palliative treatment thus becomes in a large percent of cases, preparatory treatment for radical removal of the obstruction.

As soon as the obstruction has progressed to the point of making frequent use of the catheter necessary operation should be decided upon. It is in the early cases where the bladder and kidneys have not become permanently damaged by back pressure and infection that the best results are obtainable. In more advanced cases palliative treatment with a view to improving the patient's condition should be carried out more elaborately and include prolonged catheter drainage, bladder irrigations, rest, attention to the bowels and skin, and the administration of urinary antiseptics. These measures will often improve conditions sufficiently to make operation fairly safe in an otherwise hazardous case. Observation of the pulse and temperature, quantity and character of the urine and condition of the urine as found by analysis, together with the patient's general state of health aid in deciding upon his fitness for operation. The phenolsulphonephthalein kidney function test will be found a valuable adjunct to the ordinary diagnostic measures. The case with which it is carried out and the seeming reliability of its results make it superior to other tests of this kind.

The choice of operation for radical removal of the hypertrophied prostate depends somewhat upon the nature of the case and the character of the enlargement, but mainly upon the surgeons familiarity with and skill in performing any one of the several operations in common practice.

Great variation of opinion has existed among prominent surgeons as to the best method of operating.

The Bottini operation for electro-cautery incision of the obstructing prostatic tumor has to its credit many successes and was attended with moderate operative risk. This procedure had for a time many adherents but it has fallen into disuse especially in this country, as have also other galvano-caustic operations except in selected cases.

The earlier operations for removal of obstrutting prostatic growths were by the supra-pubic route and opinion was for many years in favor of this method. The development of the median perineal operation, as suggested a number of years ago by Gouley and first put into practice by Wishard[1] and Goodfellow and later by Alexander, Bryson and others, bid for an equal share of favor with the supra-pubic method.

The brilliant work of Young in his operation of extra-capsular enucleation with a great lowering of operative mortality, brought controversy for a time, to which of the perineal operations should finally become the standard operation.

The great success of Freyer in supra-pubic prostatectomy bringing the operative mortality in his series of 1000 cases[2] down to 5 1-2 per cent, revived the interest of surgeons favorable to the supra-pubic method.

The more recent developments in the pathology of prostatic hypertrophy show much in favor of the upper operation in the majority of cases, and the weight of opinion at the present time probably is in favor of the supra-pubic operation.

However, many factors contribute to make the median perineal operation the one of choice in a large percent if not a majority of cases. As shown by Geraghty and accepted by Tandler and Zuckerkandl, the posterior lobe is probably never involved in hypertrophy and it is in the middle lobe that this process usually has its beginning. It is apparent then that obstruction of the urethra will often be produced before other portions of the prostate are much involved. The presence of a small middle lobe growth producing partial or complete retention, will be found easy of removal by either supra-pubic or median perineal operation, but would hardly warrant the wide dissection of perineal tissues and passage through the remaining normal prostate as contemplated by the extra-capsular operation. The ease and rapidity with which the median perineal operation may be performed without the dangers of wounding the peritoneum, as in the supra-pubic, and the rectum in Young's operation, the lessened shock and more nearly perfect control of hemorrhage, the rapid convalescence and restoration of bladder function, make the medium perineal operation one which those familiar with its technique will be loath to forsake.

It has been our custom not to operate on cases at once, but to put them under preparatory treatment consisting of continuous catheter drainage, frequent bladder irrigations and the internal administration of urinary antiseptics, and keep them under observation for a few days, during which time the urine is studied and phenolsulphonephthalein kidney function tests are made and the time of operation decided upon whenever conditions become favorable. Anaesthetic shock has been minimized by having everything in readiness for the operation before beginning the anaesthetic which is usually the gas-ether-oxygen combination. The anaesthetic is prolonged only sufficiently to be sure of having completed the enucleation and from 500 to 800 c.c. of normal salt solution is given either by venous transfusion or hypodermoclysis during the operation.

The technique of enucleation is after the method devised by Dr. Wishard, namely median perineal section and dilatation of the prostatic urethra and vesical orifice, and entering the capsule by opening the lateral wall of the urethra with a knife, scissors, or the enucleating finger below the growth where the apex presents and separating the growth first from its surgical capsule and lastly from the urethra. The growth may become broken up or will be detached en masse. If care is exercises little or no urethral mucous membrane need be removed. In one series of 50 prostates of Dr. Wishard's specimens examined by a pathologist only 10 per cent. show the presence of mucous membrane.

After removal of the obstructing growth and restoration of the vesical orifice to its normal level a two way metal drainage tube, devised by the writer and here presented, is inserted and packed about with strips of gauze until hemorrhage is controlled. The wide lumen of the tube permits the escape of blood clots and allows free outflow of the continuous irrigation which is kept up for several hours or until hemorrhage has ceased entirely and the irrigation remains clear. On the following day the metal tube is removed after a large rubber drainage tube has been inserted through it and the packing is also removed at the same time.

Perineal drainage is kept up for several days through the large rubber tube, which we think helps in shaping the new vesical orifice. It is then replaced by a smaller tube and this in turn after a few days, by catheter drainage through the urethra.

Healing usually takes place rapidly and patients are generally able to void naturally at the end of three weeks with no leakage through the perineum. Fistulae occasionally persists for a short time but excision of the scar tissue and the placing of a few sutures have sufficed to close them. Incontinence or a slight dribbling of urine generally exists for a short time and in the few instances where it has tended to be more persistent complete restoration of bladder function has usually been obtained by the occasional dilatation of the deep urethra with full sized sounds or the Kollmann dilator.

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[1] October 13, 1891, *Jour. Cutaneous and Genito-Urinary Diseases*, Vol. X, p. 105.

[2] *London Lancet*, 1912, p. 447.

ATONY OF THE BLADDER.*

By Carl Lewis Wheeler, Lexington.

Partial or complete degeneration of the vesical musculature is not a primary lesion, it is the end result in a bladder which has fought the battle and lost. Long continued overwork of a bladder, trying to empty itself against some mechanical obstruction to the vesical outlet; the overstretching of its muscular coats, causes the walls to give way and the result is atony.

Normally, as the act of urination begins, the vesical orifice dilates and the bladder-neck becomes "funnel-shaped;" the contraction of the bladder commencing with the longitudinal fibres, and those circular ones surrounding its main body. At the neck, every muscle fibre is relaxed. The act is tranquil, and free from effort or pain. When this fails, there is something wrong. What is it? Is it due to stricture of the urethra, contracture of the vesical neck, prostatic hypertrophy or atony of the bladder?

In all four of these conditions, the patient presents himself with a history of frequency of urination, hesitancy in starting the stream, with lack of force and volume; the act is accompanied with much effort and grunting; and as Keys says, "he can't make the "coup de piston," the final spasmodic clearing of the urethra, and finds the act terminating in dribbling; he does not experience the ease and relief as in the days gone by—in fact the seances are frequent; long-drawn out and short of satisfaction.

In all atonied bladders, there is a partial or complete retention—*this is the cardinal symptom.* "If after the patient has finished urinating, a catheter is introduced and the bladder found to be empty, the fact has been demonstrated that the vesical function has not been impaired. If it detects the presence of urine, vesical insufficiency is apparent, the amount of insufficiency being estimated by the number of ounces of residual urine. If residual urine be found to exist, the character of its outflow through the catheter should be carefully noted. If it flows out expulsively, vesical contractility is present, and evidently there is some obstruction to the vesical outlet. If the outflow be regulated by gravity simply, or by syphonage, then the absence of vesical contractility is the verdict.

If an abnormally large quantity of fluid can be injected into the bladder through the catheter without exciting any vesical resistance of contractility then the diagnosis of "atony of the bladder" has been established beyond a doubt.

Caution: Never rapidly or hurriedly empty one of these dilated bladders, for if the intra-vesical pressure be too rapidly relieved, there is great danger, owing to the sudden engorgement of the blood-vessels of the bladder walls, resulting in a haemorrhage into the vesical cavity. "Neglect of this precaution has even caused syncope and instant death." (Keys). Go slow, choke the catheter with a pair of haemostatic forceps for an interval of at least 5 minutes after the outflow of each four ounces and when empty, refill to one-half of its former capacity with boric-acid solution.

TREATMENT.

Remove the obstruction, keep down overdistention—allow the bladder wall to regain some contractility, as atony of the bladder will partly or completely disappear, though it has existed months or years.

There is another condition of dilatation of the bladder with loss of function, termed "atony," but according to some authors has been placed in another category, and called "paresis of the bladder" or "vesical spinal paralysis."

The spinal nerves from the lumbar portion of the cord, and the sympathetic coming from the hypogastric plexus constitute the nerve supply of the bladder; and therefore paralysis in connection with the spinal nerves supplying the bladder does occur as a result of injuries to the spine involving these centres, as well as from pressure upon the spinal cord produced by neoplasms, abscesses, gummata, etc., although the most common etiological factors producing vesical spinal paralysis are the chronic inflammatory processes; of which the most common is a sclerosis of the posterior columns of the spinal cord (locomotor ataxia.)

Every urologist is familiar with the "dish-rag bladder" of the tabetic; the full flabby bladder without obstruction; sometimes a retention; always a large residuum, and there may be an incontinence, especially if the paralysis is sufficient to involve the vesical sphincters and the deep urethra.

Vesical symptoms have long ago been recognized to be among the first in locomotor ataxia, but little has been said concerning urinary disturbances which has led to the direct diagnosis.

Koll (Cystoscopic Findings in Early Tabes

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*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

Dorsalis) in his description of the cystoscopic picture, says "The most striking changes are found at the ureteral orifices, which instead of showing the rhythmical, uniform, sphincter-like action with each extrusion, allow the urine to flow out without any evidence of a muscular contraction. This condition, he says, he has been unable to find described in literature; and has given it the name, "ureteral-orifice rigidity." In some cases this rigidity may not be complete, and thus closely resembles the rigidity of the sluggish-acting pupil. There is a more or less marked hypertrophy of the inter-ureteral ligament manifested by increased vascularization and distention of the arteries; the ridge between the two orifies is distinctly higher and stands out well above the remainder of the mucosa of the bas-fond, and apparently continuous with the inter-ureteral ligament at either end.

The trabeculae, too, are finer and more nearly resemble the papillary muscles of the heart. In none of his cases did he see any trabeculae in the median line, in the fundus, (Bransford Lewis will ask "Where is the Fundus of the Bladder?) or extending high up on the lateral vesical walls."

In conclusion he says, "Lateral trabeculae formation, rigidity of the ureteral orifices, and hypertrophy of the inter-ureteral ligament compose the three important points, which offer strong suspicion of a cord lesion."

Several years ago I recall witnessing Bierhoff in New York, demonstrating the cystoscopic findings in a bladder of very indefinite symptoms. He pointed out this peculiar type of trabeculation which seemed to rise in columns on either side of the trigone; and calling particular attention to the rigidity of each ureteral os, and to the elevation and thickening of the inter-ureteral bar—saying that this type of bladder usually preceded Tabes dorsalis.

In locomotor ataxia, partial paralysis of the bladder is often one of the earliest symptoms, and the first evidence of a paralysis, and in such cases the true diagnosis of the vesical condition is often overlooked. The urine is clear, unless the previous introduction of catheters and other ureteral instruments, testing the question of a retention, has already infected the bladder.

With paralyzed walls, stunted sensibility and sluggish intermural circulation; these bladders resist the effects of irritants; very prone to infection, and seem to tolerate the most stagnant and putrid urine.

The treatment is hopeless, as the spinal lesion is an organized one.

Fuller says, "The rule for local treatment should be—Not to tamper with the bladder until retention occurs. Then recourse to the catheter should be had, the greatest care being taken to guard against infection."

DISCUSSION.

J. H. Peak, Louisville: Mr. President: I have been very much interested in these papers, particularly with those in reference to the kind of operation that should be performed in patients where there is some kind of obstruction, and also in regard to the question of drainage. In later years we recognize obstruction to the outflow of urine is the result of hypertrophied conditions, and we know how to relieve them by simply removing them.

The mode of operation is an individual equation or problem that each individual will have to decide for himself. Usually they do and should do an operation they are most familiar with, one they have seen and done the most, but there are conditions where I think, for instance, the suprapubic operation is an advantage over the perineal operation, and vice versa. Take, for instance, a very large fleshy person, and it would not be advisable often to do a suprapubic operation upon the prostate while the reverse might be considered where you have, for instance, enlargement of the median lobe, and where it extends well into the bladder, sometimes being found about the pubic arch in thin people. The suprapubic operation might be considered in such cases.

As to the matter of drainage, it is immaterial as long as you can secure drainage first and control hemorrhage second. In the use of drainage it has been our practice in our operative work to use a very large catheter or rubber tubing as large as the thumb regardless of the size. I do not care how large it is so it fills up the space. With the large catheter or rubber tubing you can control hemorrhage; you can insert a smaller catheter through the larger and keep up continual irrigation, preventing the accumulation of urine or blood in the bladder, and at the same time secure for your patients what the drainage tube is for, the drainage of serum blood clots and urine.

I want to thank the gentlemen personally for their splendid papers in which I have been very much interested.

S. G. Zinke, Richmond: In discussing these excellent papers I wish first to call attention to the the management of those cases of retention in whom catheterization is impossible. This type of cases may be divided into two classes; one, in which the cause of the retention lies in the anterior urethra; the other, in which the disturbing factor is in the posterior portion.

In the former, where there is present a scarry degeneration of the urethra for some distance, and where you feel assured that the patient either will not or can not be subjected to proper treatment (this is frequently the case in rural districts), where you find yourself in a pinch and ordinary methods have failed and you have not the necessary armamentarium to proceed, it is best to make a temporary, or permanent, artificial perineal fistula. The patient is placed in the lithotomy position and an incision one inch in length, made down to the urethra. The urethra is now opened for a distance of about three quarters of an inch. If the procedure is to be a temporary affair one need proceed no further. If, however, it is thought necessary to make it a permanent fistula, the edges of the incision in the skin and urethra are to be sewn together. This operation carries with it but one inconvenience to the patient: he has to assume the same posture as that adopted by the gentler sex in emptying the bladder. The sphincter not having been interfered with there is no incontinence.

In the other class of cases, where the seat of the obstruction lies in the posterior or prostatic urethra, one must proceed in a different manner. Tapping has been mentioned. Repeated tapping is neither a source of comfort to the patient nor is it convenient to chase around every eight hours, or oftener, to do the tapping. Some years ago Belfield, of Chicago introduced the method of using a small trochar and canula, the latter of sufficient size to permit the passage of a No. 11 or 12 F. catheter. After tapping the bladder, the catheter is passed through the canula into the bladder and the latter withdrawn over the catheter. The catheter is now fixed in place by means of adhesive straps, catheter-retainer, etc. The end of the catheter is tied in a single knot.

Joseph, of Breslau, has improved on this method. He uses a larger trochar, about 30 F. and a Pezzer catheter. The latter, you will note, has a button-shaped head with two eyes on the distal surface. He makes an incision in the median line one centimeter (2-5 inch) in length, one finger's breadth above the pubes. The instrument is plunged into the bladder for a distance of about one centimeter, trochar withdrawn, catheter, on a mandarin, inserted through the canula, the mandarin withdrawn, the canula removed and the head of the catheter fixed to the bladder mucosa by gentle traction, accompanied by a to-and-fro movement. There will be no leakage when the catheter is properly placed. If the fistula should become too large the catheter can be removed for twenty-four hours, and then re-inserted.

In connection with disturbances of micturition it is of interest to note that four cases of prostatic atrophy are reported in the August number of the Zeitschrift fur Urologie. Some authorities give residual urine as a base for the differentiation between hypertrophy and atrophy, saying that it is found in the former but not in the latter. Such is, however, not the case, for in three of the four cases there was residual urine, one 600 c.c. one 1,000 c.c., and another 1,500 c.c. In one of these cases the diagnosis made was hypertrophy; diagnosis being based on size, and the appearance, cystoscopically, of what were supposed to be nodular enlargements of the prostate at the neck of the bladder. On operation, however, the latter were found to be folds of bladder mucosa. Great stress is placed on the necessity of having the patient assume three different postures in mapping out the prostate with the finger in the rectum: first, standing, then in the knee-chest and finally in the lithotomy position.

HALF A CENTURY IN MEDICINE.*

By J. F. FREEMAN, Crestwood.

Looking forward as you younger men are looking to-day, fifty years seems a good long time to cut your capers in. To Dr. Speer and I looking backward it seems but a span, almost as a dream for time is a healer of many human ills, apprehensions and worries. Though we have been through the struggle of young men getting a foot-hold in the practice of medicine, have stood all the jars and tumults that go with it, many of which you will get right square in the solar plexus, before you reach the half century mark, we do not repine, we do not regret the time and energy and money lost. We followed the plan of doing the right thing at the right time, to the best of our ability, and that course has brought us up to this grand day, when we can look calmly back facing the work we have done, without remorse of conscience, and can turn the other way and look forward to what is to come in work, or love, or life, without flinching and without fear, because we believe in the everlasting fitness of things established by the eternal and benificent Master of Heaven and Earth.

But how about medicine fifty years ago? They said then that medicine was not a science, simply an art, and in that fifty years I have learned one thing, and that is if medicine is not a science, and only art, it takes a scientific chap to successfully practice the art. So science is not left altogether out in the cold.

Many and multitudinous have been the changes in that length of time. We did not know or appreciate what Pasteur has taught us, we did not understand sepsis and antisepsis so well. But we did some work just the same, and I am reminded of some of my first surgery, a boy seventeen years old, never having seen the inside or even the outside of a medical college, took a patient out-doors under the shade of a blooming cherry tree and amputated the leg at the middle third of the thigh, looked after the treatment and made a splendid cure.

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*Read before the Oldham County Medical Society.

So in that good day the diploma, and the examining board, and the critics, did not cut so large a figure as they do to-day, yet the work was well done, the patient got well and was a useful servant for many years.

Another instance was when I amputated a leg immediately below the knee, following a railroad accident on the L. & N. Dr. W. O. Roberts as then in knee breeches, and not doing much surgery. I did this work in La Grange in the presence of my father and Dr. Berry, an army surgeon, and strange to say they allowed me to make the amputation and when the leg was severed, the blood vessels tied, and the wound dried, the army surgeon said, now leave it open to the oxygen in the air, claiming that it was up-to-date treatment. Of course we had plenty of laudable pus after such treatment, but that is what we looked for fifty years ago.

But here are some other things that we knew in olden times, such as that the principle factor in every disease resides in the forces which direct the actions of each living cell, forces of which the organs appear to be only the instruments and which, while the display in each an independent power, the result of which is individual life, combined also in one single force producing the life of the whole being.

There is in man and the creatures near him in the zoological scale, an apparatus that presides especially over the different vital organs or actions and seems to be the source of the phenomena of sympathy, and mutual cooperation without which there could be no living being. This is the apparatus of innervation. In proportion as we descend in the scale of beings this apparatus becomes more and more simple until it finally disappears and yet life continues and signs of sympathy and mutual co-operation are still in evidence, and in beings destitute, as far as we know, of a nervous system, life nevertheless still exists, and may be destroyed by agents which are supposed to produce deadly effects solely upon the nervous system. Thus hydrocyanic acid will kill a vegetable as well as an animal, and here in parenthesis I wish to say that now at the end of almost a half century in medicine I am not so sure about the absence of a nervous system. It may be absent in so far as we can see and know, but present all the same.

How about the little jelly-like globule of animal life that appears to us to have neither nervous system or internal organs, yet is capable of finding food, folding itself around it, absorbing and digesting it, thus getting energy and supporting life. In that simple formation, there is shown design in getting, and the power to absorb, to assimilate and to live. How much better does man, exercising as he does the same prerogatives, the power to get, to absorb, to assimilate and to live.

Then there is the sensitive plant that, when you touch it, drops to the ground and stays there until you leave it, and then will arise and be itself again. Why does it drop down? Who or what gives the command to its delicate fibres and tissues to give way, to collapse and go down to earth? Then whose is the eye that watches and sees when the enemy is gone? Who or what gives the command to arise again? Why call it sensitive? and what makes man sensitive? I imagine that your answer would be a nervous system. Therefore, I am not so sure about its absence in any living thing. We are finites and cannot see very far. God is infinite and sees it all.

But I have wandered off from the things medical we knew nearly fifty years ago. However, we will come back to them now. The same effects that are produced by external causes may also be produced by causes originating in the individual. Thus whenever the blood is altered in quality or quantity, or when any solid is the seat of a severe lesion or organization the vital force fails to show itself in the usual manner, and there is disorder in the system, that cannot be accounted for by any particular lesion, but is supposed to be produced by sympathy.

But what is sympathy? was the question asked by the great Andral, in 1832.

The fact of the existence of this general derangement, is shown to us by symptoms, that show an excitement of the vital force; second, by the lowering below the usual standard, and third, its perversion; therefore you have in every disease three principle conditions which impress upon it a peculiar character, direct its progress, produce its complications (that we all dread), determine its severity, and regulate the indications for treatment, and may be called the hyper-dynamic, adynamic, and ataxic conditions.

Thus in every disease to study the conditions, both external and internal, with or without an accompanying lesion of organization; to determine which condition predominates, and formulate a treatment necessary and suitable to each case, was the end and aim of every good physician fifty years ago.

PLACENTA PREVIA.*

By J. J. Wakefield, Bloomfield.

The cause of the insertion of the placenta in the lower segment of the uterus is not very well understood. Several theories are advanced to explain this rare location. It is said to occur once in a little less than five hundred pregnancies. The implantation of the placenta may be central, or complete, or lateral, or incomplete. The causes are not here under consideration, but rather the management and treatment.

Placenta previa is one of the most formidable complications with which the obstetrician has to deal; one that causes the death of one in eight or ten of the mothers, and considerably more than half of the children.

Hemorrhage, often so frightful as to put the life of the patient in jeopardy, is usually the first intimation of the grave condition. The hemorrhage is caused by the separation of the placenta from its uterine attachment, and usually occurs coincidentally with the beginning of labor at term, but may occur at any time during the last three months of pregnancy. Its occurrence before full term might be explained on the hypothesis that the increasing growth of the womb had detached a part of the placenta.

The writers on obstetrics differ somewhat as to the source of the hemorrhage. Some of them claim that it comes from the uterus, others, that it comes from the placenta; it probably comes from both. Certainly from the placenta from the fact that the child is often lost from the first hemorrhage. The diagnosis can be made, if labor has begun and the cervix sufficiently dilated to admit the finger, by the boggy feeling of the placenta, which can be distinguished from the friable clot, and by feeling the ragged edge of the detached part of the afterbirth.

The examination is made by introducing one or two of the fingers, and if necessary the whole hand in order to get a full idea as to the true condition.

The main point in the treatment is to arrest the hemorrhage; then deliver the woman without haste and without force. Because it is necessary to hasten to arrest hemorrhage, it does not by any means follow that delivery must be hastened. Hemorrhage controlled, the delivery can be effected more at the leisure of the physician.

The first step in the control of hemorrhage is to introduce the fingers, or whole hand if necessary, clear the clots, and press the underlying, bleeding structures up against the presenting part of the child, using counter pressure over abdomen, and hold them there until hemorrhage is arrested. If the cervix is sufficiently dilated to permit it, pass the fingers up by the side of the detached, or most detachable part of the placenta and rupture the membranes in the hope that the presenting portion of the child may descend and effectually plug the cervix. Should the cervix rest high up, and not sufficiently dilated to permit the rupture of the membranes so as to engage the child, the hemorrhage can sometimes be controlled by flushing the bleeding area with one or two gallons of water, heated to a temperature of 115.

The most effectual of all methods, however, is the tampon, packing the vagina, or better, the cervix lightly with gauze, or lint, which will control the hemorrhage and also aid in dilatation. The gauze should be removed every few hours and replaced by fresh, as decomposition under the circumstances is very rapid, and the patient particularly liable to sepsis. The hemorrhage being under control measures should be taken to rally the patient, and then decide upon the best course to follow in delivering her.

The course that appeals as the easiest one, is to assist the women in the spontaneous delivery of the child, without undue force. The placenta should be pressed aside and upward toward the fundus allowing the presenting part of the child to descend and engage and the delivery accomplished. This failing, and dilatation easily accomplished, version should be done by bringing down one, or both feet and allow the buttocks to plug the cervix.

Some of the obstetricians have advocated the extracting of the placenta at once, which would effectually stop the hemorrhage. Should all other efforts fail in arresting the hemorrhage, and assured that the child was already lost this would probably be the simplest way to deliver the mother and also the safest. All obstetricians, I believe, advocate under certain conditions, going through the placenta and effecting delivery in that way. It would seem that this method presents no advantage over the method of extracting the placenta at first, as in all probability it would be expelled simultaneously with the birth of the child.

The salient points that occur in this paper, if there be any, are these, stop the hemorrhage, stop it at all hazards. Rally the patient, and trust to spontaneous delivery. Use no undue force in efforts to deliver the patient, as the lower segment of the uterus under the conditions is exceedingly friable and you might have fatal rupture. Such has been cases reported. Never leave a woman who has a hemorrhage from a placenta previa until she is delivered or has a competent nurse with the means for controlling hemorrhage with her.

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*Read before the Nelson County Medical Society.

ANAESTHETICS AND ANAESTHESIA IN LABOR.*

By Hugh D. Rodman, Bardstown.

This subject covers a wide field and in the medical profession there is a wide diversity of opinion as to the use of anaesthetics during labor. Many excellent practitioners, with large obstetric experience, will tell us that they never use an anaesthetic in the lying-in-room. On the other hand many others tell us that chloroform or ether should be used in every case of labor. My opinion is that neither of these positions is correct. A woman of a nervous temperament suffers more, during a labor of the same character, than her phlegmatic or bilious sisters. Generally women with such temperaments should have the benefit of an anaesthetic. Women of this temperament are benefitted in many ways by the anaesthetic; it relaxes and aids in the more rapid advance of the labor, gives tone to the nervous system, takes off the sharp edge of the pain, enables the patient to assist nature, and is just the help that such patients call for and need, and should be given without hesitation, not, however, to a surgical degree.

Anaesthesia should not be complete except in cases when instrumental aid has to be resorted to. In almost all cases an analgesia is all that is necessary or advisable. Complete anaesthesia does more harm than it is likely to do good. When the anaesthetic is pushed for any great length of time to the extent of profound anaesthesia in the lying-in-woman, who, in ninety-nine of every one-hundred cases is already in a state of more or less toxemia, it will do harm in several ways.

First, it may, and has in my hands, caused complete cessation of the uterine contraction, thereby necessitating a forceps delivery, which otherwise might have been avoided. This permanent relaxation often continues long after the delivery of the placenta, thereby greatly increasing the dangers of post-partum hemorrhage. The long continued use of chloroform or ether is dangerous alike to the liver and kidneys by increasing and making permanent the irritation already established.

Also a complete saturation of the mother's blood with chloroform or ether is dangerous to the unborn child. This is another objection to complete anaesthesia, we never know how much either the mother or child can safely bear, the mother may become asphyxiated and be dead at the snap of your finger, which result has been rare in such cases, as parturient women seem to be more immune to the bad effects of anaesthetics than any other class of patients, but it is surely safe to be always watchful of the mother, and it is also sure that we should not push the anaesthetic too far nor too long, lest we may kill the foetus. Turnbull relates a case in which a woman received three pints of chloroform during a protracted labor, and was finally delivered with the aid of the forceps of a child which was so completely narcotized that every effort to rescuscitate it failed. It is therefore safer not to begin our anaesthetic too soon, lest we lose control of our patient, for after having once begun, it is hard to quit while pains continue.

Lyman says that a "real normal labor is not a painful process;" this is almost too absurd to discuss; if such should be the case we have no normal labors; no child was ever born without pain to the mother. Did not God, in condemning Eve for his disobedience say to her: "I will multiply thy sorrows and thy conceptions; in sorrow and pain shalt thou bring forth children." Has God ever revoked this sentence? No. In condemning Eve did not God inflict this same pain on all of her posterity? He surely did, and from that day to this no child has ever been born without pain and sorrow to its mother. Aside from this condemnation to mothers on account of Eve's disobedience the very nature of labor indicates pain and surely produces it. The lower animals suffer intense pain in bringing forth their young, as is indicated by their acts. The mare neighs; the cow bellows; the ewe bleats; the sow squeals; they all moan as if in great agony. Even the fowls suffer in laying their eggs and express this suffering by outcries of various kinds. A painless labor would be contrary, first, to God's sentence pronounced against our first mother and all of her offspring; second, to all nature. The necessary uterine contractions could not exist without pain, hence the absurdity of this statement.

Now how much of this pain shall be relieved by anaesthetics? In an ordinary normal labor an anaesthetic is wholly undesirable, except in the very last expulsive pains, when a few inhalations should be given. Anaesthesia is a great blessing to a woman in labor.

We have now decided to give an anaesthetic what shall we give?

Somnoform is too evanescent to rely on and would require repeating too often to be of use, in the lying-in-chamber. Nitrous-oxide and oxygen is a good and fairly safe anaesthetic; but the apparatus required for its administration is too cumbersome to take with us in our obstetric work, hence it is impracticable; there are others which are hardly worth mention; which brings us to ether or chloroform. Both of these have their admirers. I prefer chloroform, for several reasons. It is very much quicker in its action; it is less irritating to the nasal and bronchial mucous membrane. It disturbs the stomach less; its fumes are less flammable, which is quite an item in the country where we have, and are often near, large open fire places and coal oil lamps. I have therefore decided to give chloroform. How shall I give it? In the second stage of labor only.

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*Read before the Nelson County Medical Society.

I would not give chloroform in the first stage of labor. If we do we may expect trouble. First, it is not needed in this stage, as the pains are not so annoying, not so close together, and are of short duration; it can not be given during this stage of labor effectively without keeping our patient constantly under its influence, which is undesirable. If our patient once gets a taste of its analgesic effect we will have trouble in keeping it from her, and her entreaties will be so earnest and so imploring that we will seem as deaf brutes to deny it. So don't begin with an anaesthetic until the os is well dilated and the head advancing; when we have arrived at this point and the pains are hard and resistance great, I give a few inhalations of chloroform with each pain, apply the cone to the nose and mouth just as the pain gives its first warning and remove it as the contraction subsides; this removes the keen edge of the pain, assists the soft parts of the mother to relax, stimulates the nerves and does good in every way, and does not anaesthetize the mother, nor narcotize the baby. Just as the head is gliding over the perineum and emerging through the vulva I press my chloroform stronger and longer just then, bringing my patient almost to the point of unconsciousness for a very short time, then withdraw altogether the anaesthetic.

Ether can not be given so effectively in these cases. As I said above it is very much slower in producing its effect; the pain will have passed before the patient feels the effect of ether; in my hands chloroform is decidedly preferable. I do not use the mask or inhaler; unless you can keep it well covered with several thicknesses of gauze you waste a great deal of chloroform by evaporation and thereby keep the air in the lying-in-room saturated with the fumes, rendering it exceedingly disagreeable to those in the room, and also increasing the danger of a conflagration. My rule is to take an ordinary glass tumbler into which I pack tighlty gauze, or a soft cloth, to about one-third its depth, onto which I pour my chloroform, and just as the pain begins I place this over the nose and mouth of the patient, in this way she gets the anaelgesic effect almost instantaneously, and loses none, or but little of my chloroform. As the pain eases off I remove my tumbler and turn it mouth down on a plate which I have on a table or chair by my bedside; this prevents the escape of the chloroform and it's just at my hand ready for instantaneous use. I give the chloroform myself until my attention is needed to manipulate the child, then I trust it to some woman who is present and I direct her when to apply or withdraw the chloroform; just as the head is passing through the vulva I try to have the patient almost completely anaesthetized for just a few seconds, and when the head is born I stop altogether the chloroform. By this course I have removed the keen edge of the pains, stimulated the nervous system, relaxed the otherwise rigid parts, rendered labor more bearable, received the grateful thanks of my patient and done nobody any harm.

CARE OF THE AGED.*

By D. O. Hancock, Henderson.

"Gray hairs seem to my fancy like the soft light of the moon, silvering over the evening of life." We look with emotion upon the sunset of life, when the dusk of evening begins to gather over the watery eyes, and the shadows of twilight grow broader and deeper upon the understanding. As winter strips the leaves from around us, so that we may see the distant regions which they formerly concealed, so old age takes away enjoyments only to enlarge the prospect of the coming Eternity. Sometimes the mere physical is more enduring than the mental and as the twilight deepens upon the understanding these aged ones are committed to the mad-house,—a living death while still in the flesh.

On a beautiful May morning I visited one of our State Hospitals for the Insane. While the sun was yet slanting the eastern sky there were assembled in the open on those lovely grounds some fifty old ladies. They were sitting comfortably, quietly, resting. Some were engaged in conversation, others given to their thoughts, if such people think. My first emotion was that of pride and gratitude that I am a citizen of a State which thus cares for its unfortunates. Then other feelings filled my mind. I wondered, and am still wondering how many of these old people have children living. Children who should be caring for them in their homes and loving them to the end of life.

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*Read before the Henderson County Medical Society.

Without definite knowledge, I venture the opinion that most of these patients are, in disposition, entirely harmless. And that they are unable physically by reason of age and disability to do harm if they would. I venture the opinion further, that however faded may be their mental condition, there are times when the memories of these mothers serves them of the things that are past. And at these times the awfulness of their situation crowds in upon them in a way that God only knows.

I noted their adoration for the wife of the Superintendent as she went among them with love and words of comfort. I could but think, —if these mothers have sons and daughters living, how much these children are missing of the sweetest experience of human life. If but occassionally there are glimpses of our mothers at their best, those revelations are well worth the waiting and care. I thought also of the possibility that back of it all was an indisposition on the part of children to do the work and inconvenience necessary to care for these old people. And there came to me these lines:

> "Ingratitude, thou marble haunted fiend,
> More hideous in child than monster."

The physicians of Kentucky know right well of the faithlessness that often exists in the care of the aged. How that the helpless mother or father is so often pushed off on those who are least able to care for them. And it is not always a question of finance. Old people need that which money can not secure for them. They live in the lives of their children and grand children. To deprive them of these associations without real cause is high crime. No joy in nature is so sublimely affecting as the joy of a mother at the good fortune of her child. If we are honored, let them enjoy it with us. But spare them all adverse winds.

No language can express the power and beauty, and heroism and majesty of a mother's love. It grows stronger where man faints, and over the wastes of worldly fortunes it sends the radiance of its quenchless fidelity like a star in heaven. They now have no more the strength of body and mind to share our burdens. Let them become rallying points, around which affection and obedience and a thousand tender endeavors to please concentrate. And dreary is the blank when such a point is withdrawn. Their failing and faded mentalities often leave but little of their former selves, still we love them; and gladly cherish and care for them.

The encroachments and limitations incident to extreme old age often are interpreted by old people to be neglect on the part of those who are charged with their care. A daughter who has done most and who continues to care for her parent faithfully, is criticised by that parent. A son, who has measured up to the highest standard of filial duty, is the frequent object of vituperation. An Institution which has been faithful in discharge of obligations is heralded as unfit, or derelict. Where such unfavorable reports are made by the patient it should always be remembered that the true cause may be found in the natural limitations and pains of the aged. Sometimes dispositions entirely foreign to the whole tenor of their lives are evidenced. And we are shocked and made anxious by them. A proper interpretation of these mental states will relieve our anxiety.

No amount of love or faithfulness can relieve or dispense with the fact that there is work and hardship and "weariness to the flesh" in caring for these aged people. But a disposition on the part of a child or children to shift this duty to others, or to the State, or to fail to properly care for their old or disabled parents is nothing short of the basest ingratitude and cowardice.

Extreme old age should have the best possible environment, and should be protected, even more than childhood, from the ills of life.

ACUTE PEMPHIGUS VEGETANS.*

By S. J. Harris, Philpot.

On April 19th, 1913, Mr. M., age 34, married, a farmer, a man of rather slender physique, and of a nervous temperament, came into my office and requested me to prescribe for him for what he denominated a "breaking out" which had been on him for four or five days. He told me about four or five weeks before this visit he had been vaccinated, and the vaccination was giving him much trouble. The arm was quite sore and gave him pain. About ten days before his visit to my office in driving a span of mules to a wagon and crossing a swollen stream, the wagon was turned over into the creek, and Mr. M., was caught under the bed in the water. With great effort he extricated himself and made a safe landing, but was much debilitated by the great nervous shock. A few days after this accident he began to have a little fever, accompanied by what he denominated the "breaking out." Upon examination I found Mr. M., with a temperature of 102. His pulse about 110 to the minute. His mouth, throat and lips were covered with white and red spots, his throat including the pharynx, tonsils, and all the parts that could be seen, were in an inflamed condition, and so also was the larynx and laryngo-bronchial tubes.

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*Read before the Daviess County Medical Society.

He often coughed up secretions tinged with blood. Having taken off his clothing, I saw what he called his "breaking out." From the umbilicus down to the upper part of the lower third of each thigh, including his genitals and all on the inner surface of the thighs and all of the abdomen below the umbilicus extending to the hip on each side were covered with vesicles in a confluent form, many of them as large and some larger than a partridge egg. The same condition existed under each knee and in the popliteal space, with occasional large blebs scattered over the legs down to the feet. In each axilla space, and extending six or eight inches down the side of the chest, and on each arm. The same condition of vesicles existed. A few blebs were to be seen on the neck and back of the patient.

I questioned him as to his history, etc., but he said he had always been healthy except he had had inflammatory rheumatism about five or six years before. I had never seen any skin disease that resembled this, there was very little inflammation, if any, about the vesicular surfaces. The blebs were filled with a clear fluid. I did not know what to call the disease but I told Mr. M., he was in a serious condition and advised him to return home and take to his bed. I opened many of the larger blebs before he left the office. I gave him quinine, four grains, and salicylate of sodium to take every four hours. I saw him at his home on the 20th, of April and found him with a little less fever, but condition otherwise not changed, except the vesicles were spreading over the hips and buttocks, and continued to spread from day to day, for several days until the larger part of the body was covered with the blebs. I had, after reading up on this character of trouble, begun to realize the seriousness of the man's condition, and told him and his wife his case was a serious one, and if they desired counsel to say so. I began the use of arsenic and nux vomica the third day, and used dressings of boric acid in ointment of oxide of zinc with subnitrate of bismuth and vaseline on the denuded surfaces coveing the parts with gauze and cotton. I gave other remedies as I thought indicated from day to day, keeping the bowels open and feeding the patient as best we could, using stimulants as was indicated. About the sixth day of the disease I began to observe small specks of gangrene in many parts of the denuded surface and then suppuration began also. Occasionally a fresh bleb or vesicle would come up on the parts where one had formerly been, but none was apparent when suppuration had begun. On the 30th of April, eleven days from the time I saw this case, I asked for counsel. The man at this time, nine o'clock A. M., did not appear to be any worse than he had been for several days. He had little fever and his pulse was fairly good, and only 110 to the minute. I might say here that I had examined his urine several times before, and found it normal, he had passed plenty of water from day to way.

Dr. Osborne, of Owensboro, met me in consultation about half past three P. M., we found him in convulsions. He died in half an hour after we arrived.

I report this case because of the rarity of such cases. In conclusion I would say that this man did not have fever all the time, often his temperature would be almost or quite normal for hours, and if his fever was up at the time the dressings were renewed it would subside a degree or more after the dressings were applied.

The etiology of this trouble in this man's case, in my opinion, was a suppurating sore from vaccination with the additional nervous shock.

THERAPEUTICS OF CHILDHOOD.*

By E. A. Cram, Butler.

Treatment in the diseases of children and particularly those of infants is a very difficult subject.

Therapeutics of childhood consists of some thing more than a graduated dosage of drugs. Many therapeutic measures which are valuable in adults are useless in children and vice versa.

It should be the fundamental principle of every practicing physician to never give a dose of medicine without a positive indication for it. Another good rule is to never give a nauseous dose when one that is palatable will answer as well. Small doses often repeated will be better borne than larger doses. No medicine should be given a child under three years of age in pure form, owing to the possibility of the pill being aspirated into the bronchus.

Powders are not well taken by children and should be dissolved or suspended in a watery solution or emulsion.

Enemata are, as a rule, well borne. If nutrient should be given half high and in small quantities.

Inunctions are very disagreeable and uncertain. Suppositories are an efficient means of medication, or to evacuate the bowel.

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*Read before the Pendleton County Medical Society.

Inhalations can be used in older children.

Hypodermoclysis is of great service in the treatment of children.

Medical antipyretics, especially the coal tar derivatives, should seldom be employed.

Hydrotherapy gives better results in all forms of hyperpyrexia.

Stimulants, such as alcohol, strychnia, nitroglycerin, sparteine, digitalis, are well borne.

Anodynes should be given with great caution, especially opium, which should not be mixed with other drugs in a prescription. It can be given at the same time but added to the mixture.

Counter irritants are easy of application owing to the delicateness of the skin. Mustard, turpentine, chloroform in the form of sinapisms or linaments.

The bran and soda bath in skin diseases, such as urticaria, prickly heat, etc., Mustard bath in pulmonary afflictions and convulsions is very beneficial. The brine bath in the poorly nourished.

Irrigations of the nose, stomach washing, irrigation of colon, are valuable therapeutic measures when indicated.

TYPHOID FEVER AND ITS TREATMENT.*

By Simpson J. Simmons, Gradyville.

Typhoid fever is a general infectious disease, caused by the bacillus typhosus. Eberth, in 1880 discovered this organism in sections made from the intestinal organs of persons dead from the disease. Gaffky later obtained it in pure culture, and proved by demonstration its relation to the pathologic lesion found in the bowel.

This organism is not only found in the bile, spleen, bone-marrow, mesenteric glands and etc., of persons dead from the disease, but may be, in many cases, isolated from the blood during life.

Typhoid is a widespread disease, found in all countries explored by civilized men. In most parts of the United States it is endemic. Epidemics frequently occur and can usually be traced to the pollution of milk or water supply.

This disease is most prevalent in the late summer and autumn months. One of its many peculiarities are that the strong and robust are as susceptible as the weak and infirm.

PROPHYLAXIS.

The first step is to find out the source and mode of distribution. Infection occurs only through the gastro-intestinal tract. We must eat or drink the germ to become infected. How long this bacilli can live outside the body depends on surrounding conditions. On this point there has been much discussion, but all agree that typhoid bacilli do not thrive well outside the body.

It is not necessary to refer to the great epidemics which have been traced directly to infected water to prove that this organism will live and remain virulent outside the body, for with the improvement of the water supply alone, typhoid has been almost entirely stamped out in many localities.

The house-fly plays an important role in spreading this disease, where, as in many cases they have access to the excreta from the patient.

The commission appointed to investigate typhoid in the Spanish-American war, considered flies the most active agent in spreading this infection.

Alice Hamilton, in Chicago, was able to cultivate typhoid bacilli from flies caught in the neighborhood of typhoid patients.

Our chief aim, therefore, should be to prevent the distribution of the bacilli, by destroying them as soon as possible after they leave the patient. By this means we may lessen the total number of cases, and prevent an endemic from an epidemic.

One great source of difficulty is "the chronic typhoid bacillus carrier." It has been proven that persons who have previously had typhoid may and do have the bacilli in their stools and urine, and may continue to excrete them for months or even years without any harm to themselves, but a source of danger to all about them. These bacilli have been demonstrated in the stools of doctors and nurses caring for typhoid fever patients.

So far, the treatment of these "chronic carriers," with the attempt to prevent the further excretion of these bacilli, has been without permanent results. Vaccines have been faithfully tried, but so far without the result desired.

The treatment of these carriers has become a question for public hygienists to deal with.

Briefly summed up, the procedures to be carried out in the prevention of this disease, consists simply in disinfection of the urine, stools and sputum as soon as the excretion leaves the patient, together with the sterilization of all things which may accidentally be contaminated by them.

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*Read before the Adair County Medical Society.

PATHOLOGY.

The lesions occur mostly in Peyer's patches, solitary and mesenteric glands. It is divided in four stages: 1st, infiltration or swelling due to excessive proliferation of the cellular elements of the glands; 2nd, necrosis or sloughing of the diseased part; 3rd, ulceration; 4th, cicatrization or perforation.

SYMPTOMS.

Will say the symptoms are varied. In no two cases are they the same. The onset is insidious: malaise, headache, anorexia, general weakness and nose bleed. Later, fever with morning remissions, diacrotic pulse. Pulse does not run in proportion to the fever. Tongue coated with red edges. Moderately distended abdomen ,and upon pressure in right iliac fossa gurgling sounds and tenderness.

From the seventh to tenth day reddish spots resembling flea bites, appear on abdomen, back or lower chest.

At the end of the second, or during the third week, all symptoms grow worse; low muttering delirium, picking at bedclothes, *subsultus tendinus* and *coma vigil* in severe cases. The main intestinal symptom is diarrhea, though in many cases there is constipation throughout.

PROGNOSIS.

Will they recover? This question is always asked. We should be guarded, I think, in giving favorable prognoses to friends, unless the case fully justifies us in so doing. Select some member of the family and tell them the exact state of affairs if they be serious. By this means we may avoid censure which might otherwise occur.

TREATMPNT.

Like most other diseases, we have no certain specific. The hopes entertained for the specific serum have not been fully realized as yet. Yet the problem does not seem altogether hopeless, but with the further knowledge of the true nature of the disease, possibly a specific serum will soon follow.

We remember when the diphtheritic antitoxin was first used ,the results were uncertain. Now it is being used hundreds of times stronger than at first, and none deny its efficacy. So, one conclusion is, that the typhoid serum is not of sufficient strength to be effective.

The three main factors to be considered in the treatment of typhoid are, rest in bed, good nursing, and proper diet. I will not attempt to go into detail on these points. Time and space will not permit, but will try to give a few of what I consider the most important. The diet should be liquid or semi-solid, milk, meat-broths, meat juices, soups and etc. Vary the diet as to results and taste of the patient.

Treat the symptoms only. Don't give too much medicine. Give a placebo. Reduce fever by baths. Antipyretics compromise the patient's strength and weakens the heart's action.

When temperature reaches 102.103, sponge every three or four hours, using cold water. If this is complained of by patient, begin with tepid water and cool gradually to the temperature desired. Encourage patient to drink water freely.

An intestinal antiseptic, salol, carbolic acid, bismuth and the sulpho-carbolates are old stand-bys. They help by preventing fermentation, etc., in the alimentary tract, but do not act in any way on the germ, as was once supposed. If there is much tympanitis, I use turpentine stupes on abdomen and give it internally three or four times daily.

For constipation, I give fractional doses of calomel, oil or salts at first, later, enema.

There are many things that come in a case of typhoid where we have to use common horse sense. We can follow no set course of treatment successfully in every case. We should do all in our power to maintain the patient's strength, eliminate the poisons from the system, and give him rest and comfort.

Convalescence should be guarded carefully. Give no solid food as long as the tongue is red. Exercise should be of the mildest sort for weeks.

Typhoid is a fever of many complications and sequels, so keep a close watch over your patient until you are sure he is out of danger.

Anal Fissure.—Treatment—Conservative measures advocated in painful fissure. In examining for it have patient bear down, or blow in some orthoform. In treatment: 1. Apply thigenol on cotton on end of probe, which is then withdrawn, leaving cotton in position. 2. Patient to drink tumblerful of hot water an hour before breakfast, and another, either hot or cold, in evening. 3. To insure softness of motions.

Fetal Position.—Diagnosis.—More general use of abdominal examination for diagnosis of fetal position and presentation urged, being safer and generally more satisfactory than vaginal and combined methods. Even in very fleshy patients and in polyhydramnios, pressure on opposite sides of abdomen with one hand, while palpating with other, will often enable one to feel distinctly the fetal parts.—Phillips.

ECTOPIC GESTATION, DIAGNOSIS AND TREATMENT.*

By N. C. Witt, Franklin.

Ectopic gestation, or extra-uterine pregnancy, is of relatively frequent occurrence, having been found present by one investigator at a ratio of 1-100 in general autopsies.

While the condition may exist in any of the three anatomical divisions of the Fallopian tube, or even in the ovary, there is no appreciable variance in the symptomatology and its diagnosis will be discussed as a whole, rather than its occurrence in any specific area.

In the successful diagnosis of tubal pregnancy, we must not overlook the importance of a thorough and exhaustive history of the case. It must occur during the child-bearing period of the woman; she must have undergone the liability of impregnation at a comparatively recent date, and cases not meeting these requirements can at once be eliminated.

Again it is an accepted fact that the condition under discussion is prone to follow in long periods of sterility, a point which should be given due weight in our deductions.

A history of pelvic inflammatory troubles should not be ignored as partial obliteration of the tube incident to them is a strong etiological factor in abnormal impregnation. In this connection will also state that we must guard against carelessly attributing the patient's symptoms to a recurrence of her former trouble, thereby losing valuable time.

Rarely indeed, is a diagnosis made before rupture of the tube or abortion of its contents, which may take place through the ostium into the abdominal cavity.

The woman believes herself to be normally pregnant. Amenorrhea is usually, though not necessarily, present.

The breasts begin to enlarge and if the pregnancy persists until the third month, colostrum may be found in them; morning sickness is usually experienced and accounted for without alarm on her part.

As a rule by the end of the second month, the tube undergoes either a partial or complete rupture, forcing the woman into the realization that matters are not as they should be. If incomplete, she will complain of uneasy sensations and colicky pains throughout the hypogastrium. Examination reveals a uterus enlarged, with softened and patulous cervix. Shreds of decidua may be found in the uterine discharge and introduction of a sound will show the uterine cavity to be enlarged but empty. Bimanually we can make out the distended tube.

With a complete rupture the symptoms are much more severe and alarming in character. The pain is sudden and excruciating followed rapidly by collapse, patient sometimes going into unconsciousness at once. All the signs of extensive internal hemorrhage—pallor, weak rapid pulse, sweats and coldness of extremities are in evidence.

In abortion of the tubal contents, the pain is not so marked but the signs and symptoms of shock as rapidly ensue. If the products of conception have escaped into the peritoneal cavity we can detect first the presence of free fluid in the cul de sac of Douglas. Later on clot formation, the examining finger will note its doughy consistency. If between the folds of the broad ligament, there will be an excess of pain, less shock and we can determine the resulting hematoma in that locality.

TREATMENT.

At any stage upon discovery, is operative; complete removal of the tube and the abnormal pregnancy by the abdominal route. Even where the patient is apparently exsanguinated, we may be enabled to tie off the bleeding points and by the intravenous injection of normal saline save a life. Or if the hemorrhage has stopped and the patient reacted, we have no assurance that there will not be a secondary and fatal hemorrhage. Finally, if the initial clot held good, its liability toward becoming infected, would serve as a menace to her.

Following is a case report which I think will be of interest:

Mrs. X., white, age 34 years; multipara; been married four years, was admitted to sanatorium September 10th. Family history negative.

For twelve months she had suffered from a salpingitis which from the history was undoubtedly gonorrheal in origin. She had stopped menstruating two months prior to admittance to hospital. For a few days previously she had been complaining of colicky pains over the lower abdomen, nausea and passage of clotted blood from the uterus. Was also running a slight temperature.

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*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

On the morning of the 10th, there was a sudden onset of severe and lancinating pain, followed by partial collapse; subnormal temperature and the other symptoms of shock.

The most superficial examination sufficed to confirm the diagnosis of ruptured tubal pregnancy and notwithstanding the patient's state of lowered vitality and lifeless appearance, immediate operation was urged.

Patient withheld her consent for three days however, at the expiration of which time she had undergone considerable reaction, having a pulse of 90 and a temperature of 99.

Operation showed a ruptured tube on the right side. Extensive clots were removed from the peritoneal cavity. The injured tube, along with the left tube and ovary which were in an unhealthy state, was extirpated and the woman excepting a long continued nausea made an uneventful recovery.

While delay did not result fatally in this instance, I feel that it should never be advised with the possible exception of those cases where we are confident death would result on the table. I believe, too, that this woman would ultimately have died of peritonitis had she not risked the operation when she did.

Fibroid Phthisis.—Treatment.—Where profuse expectoration of pus, creosote often best remedy. Dose, 3 to 5 drops (0.18 to 0.3 c.c.) three times daily, given ove ra long period. Creosote carbonate more easily tolerated; dose, 15 to 25 drops (0.9 to 1.5 c.c.) per day.—Fishberg.

Adenitis, Tuberculous.—Treatment.—1. Produce Bier hyperemia by applying elastic band about neck for a few hours before opening abscess. 2. Make very small straight incision into gland, evacuate contents with dull spoon, using no force, and, without washing or wiping out cavity, introduce a 2 to 4 per cent. solution of formaldehyde in glycerin, and seal incision. Primary healing results in 50 per cent. of cases; others are treated by further injections. 3. In cases of extensive involvement, prescribe enzymes of yeast internally. 4. In the few cases that do not respond satisfactorily, resort to radical operation.—Brown.

ESTIMATION OF THE BLOOD-PRESSURE IN GENERAL PRACTICE.*

By Emmet F. Horine, Louisville.

Accuracy in diagnosis is the aim of the conscientious medical man of the present day. The practitioner desires to use every practical method or instrument in gaining data in regard to his patients. Instruments of precision are being used in determining exact conditions where formerly the practitioner was content to "guess." Of the scientific instruments in general use at the present time, the sphygmomanometer is one of the most valuable. By its use diagnosis may now be accurately made in certain diseases in which formerly, without its use, the physician could only guess as to the exact condition.

Not only is the diagnosis of numerous conditions made easy by the use of the sphygmomanometer but the treatment may be carefully watched and the prognosis more accurately determined. The sphygmomanometer can be depended upon to give accurate information in regard to the effect of the drugs administered and from the consequent accurate dosage, the prognosis is rendered better.

The pressure exerted by the blood on the walls of the artery in which it is flowing constitutes blood pressure. The pressure will vary as the left ventricle contracts or is being filled. When the blood is forced from the left ventricle into the arterial system, the pressure in the arteries rapidly increases until a so-called crest is reached which is the systolic (or maximal) pressure. The systolic pressure represents the sum total of energy expended by the heart. As the arteries empty into the arterioles and thence into the capillaries, the systolic pressure rapidly falls until the diastolic (or minimal) pressure is reached. The diastolic pressure represents the pressure in the arteries during diastole and shows the resistance which must necessarily be overcome by the next contraction of the left ventricle. By pulse pressure is meant the extent to which the resistance is overcome by the ventricular energy.

The blood-pressure in normal individuals is influenced by numerous factors, such as age, sex, occupation, excitement, anger, mental or physical exertion, digestion, et cetera. The systolic (maximal) pressure in adult males usually varies from 125 to 135 Hg. (12 cm. armlet). In adult females the normal pressure varies from 110 to 125 m.m. and in children from 75 to 110. A constant systolic pressure above 145 mm. in an adult is considered pathological as is also a pressure below 100 mm. In elderly persons the pressure may be above 145 mm., without pathological significance as here the upper limit is approximately 170 mm.

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*Read by invitation before the Henry County Medical Society.

The normal diastolic (minimal) pressure varies from 25 to 40 mm. below the systolic. The pulse pressure which is the difference between the systolic and diastolic pressures varies therefore from 25 to 40 mm. A pulse pressure above 50 or below 20mm. should be considered pathological.

The question is quite often asked: "In what class of cases should an estimation of the blood-pressure be made?" Janeway has advised that estimations should be made in the following cases:

"(a) The first examination of every new patient; (b) occasional examinations for the purpose of watching progress in cases of hypertensive cardio-vascular disease and nephritis; and (c) every examination made for the purpose of certifying to the existence of a state of health." Class "c" would include those applying for life insurance, athletes, firemen and policemen and others whose physical condition must be good.

The following conditions are usually accompanied by hypertension: arterio-sclerosis, angina pectoris, aortic regurgitation (high pulse pressure), cerebral hemorrhage(primary stages), chronic nephritis, eclampsia, emphysema, gastric crises of tabes dorsalis, gout, hepatic cirrhosis, perforation in typhoid fever, plumbism, uremic and apoplectic coma.

Hypotension is ordinarily found in the following conditions: acute diseases, anemia, cardiac dilatation, exhaustion, hemorrhage, tuberculosis, shock and collapse, starvation, cerebral concussion, cerebral hemorrhage (terminal stage), syphilis.

Variable pressures are present in the following diseases: asthma, chronic bronchitis, cerebral tumor, diabetes, exophthalmic goitre (quite often high), insanity, jaundice, neuroses, neuralgia, pleurisy, pneumonia rheumatism.

To discuss the blood-pressure findings in each of the above mentioned conditions would be beyond the scope of this paper. Therefore I have considered only those conditions in which blood-pressure estimations will be at all times of great value.

As a rule cases of arterio-sclerosis show an increased systolic pressure with the diastolic not so markedly increased. In arterio-sclerosis as is well known, the atheromatous change may be either circumscribed or diffuse. Now permanent high blood-pressure cannot be maintained without hypertrophy of the left ventricle. Hasenfeld and Hirsch have proven that: "Arterio-sclerosis leads to an hypertrophy of the left ventricle *only* when the splanchnic arteries or the aorta above the diaphragm are highly diseased." Atheromatous changes of the remaining vascular regions do not appear to exert such a marked influence. Therefore, high blood-pressure indicates in arterio-sclerosis an involvement of the small arteries especially in the sphlanchnic circulation or of the aorta above the diaphragm. When chronic interstitial nephritis is observed with arterio-sclerosis, as is quite often the case, excessively high pressures are usually observed sometimes reaching 300mm. of hg.

True angina pectoris is quite often accompanied with hypertension (170 mm. or over). When high pressure is present, the treatment should be amyl nitrate during the attack and nitroglycerin in the interim, both controlled by blood-pressure readings. By careful supervision, patients with angina pectoris may expect to survive for years without any great discomfort. This fact may be illustrated by a brief reference to the history of one of my cases. One year ago an elderly female consulted me complaining of intense anginal pain upon the slightest exertion and it was necessary to resort to the use of amyl nitrite during the paroxysms. The systolic pressure was 190 mm. of mercury. The urine contained the faintest trace of albumin and a very few hyaline casts. She was advised with reference to diet and exercise and nitroglycerin was given and its action watched by the sphygmomanometer. In addition, three grain doses of potassium idodide were given. During the past year she has been practically free from pain and she is now enjoying fairly good health.

In the aortic regurgitation the systolic pressure is rarely increased but the diastolic pressure is always greatly lowered and this results in a high pulse pressure. This high pulse pressure, amounting to from 60 to 80 mm., is an exceedingly valuable point in the diagnosis of aortic incompetency. Other valve lesions show little variation from the normal.

Nephritis is usually accompanied by hypertension and this is particularly true of chronic interstitial nephritis. High blood-pressure existing for a long period is usually due to chronic nephritis even though the urine be found normal. With chronic parenchymatous nephritis the severe cases are accompanied by hypertension. Of course it should be understood that in the terminal stages, the pressure will be found low.

With reference to high and low pressures in head injuries, I desire to quote from a former paper of mine: "In injuries of the head, the pressure should govern the treatment. Kocher, Cushing and others have studied this question and they have brought out many valuable points. In compression during the *terminal stage*, in concussion, and in direct injury to the medulla, hypotension is present. Treatment of this hypotension, when observed early after injury, consists in artificial respiration and transfusion in an endeavor to increase the arterial blood supply of the medulla. Operation is considered contraindicated.

"In compression due to intra-cranial hemorrhage, we see very high pressure. This hypertension is the result of the effort of the vaso-motor center in the medulla to overcome the acute cerebral anemia caused by the compression. In traumatic cases, hypertension or a steadily increasing pressure, in conjunction with other symptoms is an indication for immediate operative interference. With symptoms of localization the site for operation is, of course, indicated. Without symptoms of localization as is the case with diffuse hemorrhage, 'the intracranial tension should be relieved by the elevation of a large osteoplastic flap from one hemisphere or the other with a corresponding opening in the dura.' (Cushing)."

In obstetrical work the sphygmomanometer is very valuable in indicating toxemia. Estimations of the blood-pressure in pregnancy are of no more value than examinations of the urine, and this is a fact first mentioned by Janeway but now accepted by all obstetricians. A high and gradually increasing pressure in pregnancy is diagnostic of threatened eclampsia.

In typhoid fever a low pressure is found which gradually becomes lower as the condition progresses. For blood-pressure estimations to be of value it is necessary to take the pressure every three hours and to record the findings. This can be easily done because the technique is so simple that the nurse can be taught to use the apparatus. The two most dreaded complications in typhoid fever are hemorrhage and perforation and it is at times hard to differentiate them. The sphygmomanometer will be of material aid in the differentiation. Hemorrhage will make itself known by a sudden drop in pressure. On the other hand, perforation with beginning peritonitis will manifest itself by a marked rise in pressure. When the peritonitis becomes general and the patient weaker, the pressure will of course begin to fall. The blood- pressure determinations are of value even if neither perforation nor hemorrhage occurs because a slowly falling pressure is indicative of threatened collapse. This slowly falling pressure would apprise the physician of the necessity for stimulation.

At times it is hard to differentiate the various types of coma: alcoholic, apoplectic, uremic, epileptic and hysteric. From the information furnished by the sphygmomanometer one will receive valuable aid. In simple alcoholic coma, the pressure is not affected since alcohol has practically no effect on blood-pressure. Also in epileptic and hysteric conditions the pressure will not be markedly changed. On the other hand, in apoplectic or uremic coma, an unusually high pressure is the rule.

Hypotension is found in tuberculosis if nephritis does not co-exist. The French authorities are very emphatic in asserting to the great value of blood-pressure estimation in suspected cases of tuberculosis. Emerson believes that: "Any case of hypotension should put us on our guard at once. If it persists, and no other cause is found to explain it, such a hypotension should probably be treated on much the same hygienic principles as suspected early tuberculosis."

Severe cases of pneumonia are usually ushered in by an increased pressure. After several days the pressure will begin to fall fairly rapidly and, in fatal cases, exceedingly rapidly. Gibson's rule has stood the test of clinical experience: "When the arterial pressure expressed in millimeters of mercury does not fall below the pulse rate expressed in beats per minute, the fact may be taken as an excellent augury, while the converse is equally true, i.e., when the pulse rate per minute is higher than the pressure of the millimeters of mercury, the equilibrium of the circulation is seriously disturbed."

My remarks have been confined to the more important conditions in which blood-pressure estimations are valuable. But in every clinical branch of medical endeavor, the sphygmomanometer will be found useful. The oculist, the aurist, the surgeon and the anesthetist, the obstetrician, the internist and the "family doctor"—*all* must acknowledge the scientific value of blood-pressure estimations.

Appendicitis, Acute.—Treatment.—After operation in children: 1. Give warm saline solution by rectum, 8 to 10 ounces every two or four hours; administer slowly with catheter and funnel. 2. Feed with a decoction of crushed raisins, alternated with albumin water. 3. Open bowels as soon as possible. If no normal movement within twenty-four hours, give glycerin enema; use syrup of senna as routine aperient.—Stiven.

CHRONIC CONSTIPATION; ITS CAUSES AND TREATMENT.*

By C. M. Rice, Southerland.

We shall first discuss some of the causes which lead to atonic conditions of the intestines. As we are more familiar with that form and as it comprises most of the causes leading to chronic constipation, I shall devote most of this paper to atony of the bowels.

One of the first great causes of chronic constipation is negligence in attending to nature's call at the proper time, and then, perhaps, the desire to defecate disappears not to return until the accustomed time, the following day. After the bowels have been neglected for a while the desire to defecate disappears entirely unless some artificial means are brought to bear.

Chronic constipation often begins with the pupil in school, especially the larger girls whose timidity prevents them from making toilet at the proper time. Often the toilet for school children is not very inviting. I have seen public toilets that were almost intolerable. Quite a number of people are forced to use public toilets exclusively, and thereby neglecting the bowels in order to find a more decent toilet. The wealthy people or those who lead a sedentary life are more commonly afflicted with chronic constipation than those who lead an active life.

Long journeys, railroads or otherwise, may cause habitual constipation, due perhaps, to the change from an active to a sedentary life, from a food that has quite a sediment to a concentrated food.

Chronic constipation often follows the contagious diseases, typhoid fever, malarial fever, dysentery, hemorrhoid, fissures, splanchnoptosis and tumors in the abdominal cavity.

It is often caused by the habitual use of drastic purgatives, patent medicines, inefficiency of bile and carelessness of the physician. Have often seen cases that inheritance seemed to play quite a part. Abnormally small anus congenital is also a factor.

The spastic form is more commonly found in extremely nervous people and those who are afflicted with neurasthenia, hysteria and long debilitated diseases.

This form is claimed to be due to spasmodic contraction of the various portions of the intestines. If pain indicates that portion involved, then my experience is that different portions become involved at times but the ascending colon on a line with the umbilicus seems to be the center of the trouble.

Spasmodic contractions of the sphincter ani often results in habitual constipation.

TREATMENT.

Before treatment is begun the exact cause of chronic constipation should be ascertained, if possible.

If hemorrhoids, fissures, tumors or ptosis of the abdominal viscera should be instrumental in the cause then surgical measures should be resorted to. Hemorrhoids and tumors should be removed, viscera replaced and fissures properly treated.

People in health usually have one movement a day or one every second day or perhaps longer and yet be in perfect health. In conditions of that kind the bowels should be left alone.

Patients should go to stool every day, preferably, a short time after breakfast and make an effort to evacuate the bowels, but it is not wise to strain very hard and very long.

Gently kneading the bowels and massaging the colon in the direction of its exit have a tendency to create a more active peristalsis and give a better tone to the intestines.

If the spinal nerves are irritable, which they are likely to be in nervous people, massaging the spine is very helpful.

The diet should be given more attention than is ordinarily given. We often find a stomach that will not tolerate the foods that are most helpful, then we find our task very much more difficult. In patients of that kind I often find more trouble in the head than in the stomach. Diet that has quite a sediment should be used freely as it will usually cause an active peristalsis. The following are some of the articles that are very helpful: rhubarb, grapes, strawberries, raspberries, blackberries, peas, peaches, apples, plums and prunes. Tomatoes (uncooked) beans and corn, are very beneficial to some. Oat meal is helpful. Large quantities of rice and potatoes are claimed to be constipating. It will not be necessary to caution our patients about the constipating effects of potatoes in the next twelve months. Meats should be given sparingly or withheld entirely, milk is a laxative to some and constipating to others.

Drastic purgatives should be avoided and laxatives used, such as cascara, aloin, belladonna, strychnine, sulphur, manna, hyoscyamus, etc., two or three times daily and decreased as the dose will permit. I prefer a laxative to be given about 40 minutes before breakfast and about same time before other meals if it is necessary to be given that often, with one or two glasses of water. Water, hot or cold, before breakfast is often very beneficial.

Podophyllin is considered a gut splitter by some, but I often get splendid results in small doses with other agencies when the flow of bile is inefficient. If I find the secretions of bile not sufficient, which I do not often find, I usually give filein.

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*Read before the Daviess County Medical Society.

Olive oil, given internally two or three times daily is often useful in softening the excreta. Enemas of salt water, soap and water, glycerine and water and plain water, are often used with gratifying results. The enemas should not be very large as it will increase the distention of the bowel.

The spastic form should be treated principally along the same line as the tonic, excepting the nervous system requires more attention and belladonna should be given in larger doses to overcome the spasmodic contractions of the intestines and the sphincter ani.

In spasm of the sphincter it is often necessary to dilate the sphincter gradually or rapidly under anesthesia.

HYGIENE AND SANITATION IN A FOURTH CLASS CITY.*

By M. C. Boyd, Cynthiana.

Hygiene is the science of health and the prevention of disease and its methods are the same in a fourth class city as any other city. I am going to discuss this ideally and in reference to our own shortcomings.

"So far as the east is from the west," so far is the ideal city of the fourth class from the one in existence. In the first place the form of government is a commercial form.

The dream city of the fourth class is one in which the health officer is a properly paid and qualified physician, who gives his whole time to the care of the health of the city. By properly paid I mean one who has as much by the year, as any officer in the county, the circuit judge, for example. "For is not the body more than meat and the life than raiment. By properly qualified I mean a good analytical chemist and a good microscopist. This officer has assistants, so that he can stay in his office when necessary. No politics enters into his appointment, merit and merit alone decides the man. He has a well equipped up-to-date laboratory. In this city, likewise, the town council cooperates with the health officer and does not occupy "the seats of the scornful," the members of this body understanding that he knows his business and only asks what is necessary for the well-being of all.

He has sanitary police to do inspection duty, and enforce his orders. These latter, also, owe their appointment, not to political pull but to the fact that they are capable and honest. Not one poor, old ignoramus whose methods are the same as those before the French and Indian war, does duty for the whole police force. The women's clubs likewise stand by the health officer; as they deal with food stuffs they make reports and as all good citizens, they do all they can to help him.

The streets are well paved either with concrete, which is best, or blocks of stone. The gutters being free from dirt, so that the streets may be flushed daily from the hydrants and swept off daily. All dirt that is on the streets is immediately swept up by street sweepers. The dirt, paper, etc., from the stores is not allowed to be swept into the streets. The spitting ordinance is enforced.

In certain foreign cities the size of our cities of the fourth class and larger, the streets are scrubbed twice a week with a scrub brush and the women, of course it is women who do the scrubbing, get on their knees to the job, as they were scrubbing the kitchen floor. But that need never be expected here, we are prejudiced in favor of giving our money to grafters. We are like Hudibras "who took more trouble to do things the wrong way than others the right way."

The houses in the ideal town must all be connected with the sewers and the plumbing is sanitary. The sewage is not turned into the river but collected in vats mixed with lime evaporated to dryness and burnt. In Chicago I have been told at the power house that the street sweepings are burnt there and help to furnish fuel.

The garbage is put in metal garbage cans with a top, gathered up by the city and burnt. None of these nasty, disfiguring dumps. The houses are all screened and if the health officer sees a house, ramshackle, dirty, unhealthy, and unfit for human habitation it is condemned and the owner is compelled to remodel it and there is a punishment meted out to the dear lover of dirt and filth. The sanitary police knowing the condition of every house, cellar and back yard in this town.

The ideal school house is built so that there is plenty of fresh air for the children to breathe and plenty of light to see by. The desks are so built that the children can maintain the proper attitude while studying and writing. There is a place to play both by rainy and fair weather. The closets have as perfect plumbing as may be and are fumigated and kept perfectly clean and in good order, and there is an attendant in the toilet rooms to look after both boys and girls. A trained nurse is in attendance. The school is inspected once a week by the health officer, and oftener if the nurse calls him. The eyes are inspected and all errors in refraction corrected, also for trachoma and other infectious disease of eye. Adenoids and enlarged tonsils removed or child kept out of school. No room should be crowded. If the health officer finds any infectious disease in school the child and, if there are other children in same family in school, they are rigorously excluded from the school till the disease is over when the dwelling and clothing are thoroughly disinfected they may return. It rests with the health officer about closing school. The children are taught sex-hygiene, not allowed to grow up like pigs with no knowledge on that subject. Many a man and woman err through ignorance.

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*Read before the Harrison County Medical Society.

We in this town ought to be aroused to the importance of school inspection by the fact that we are responsible to God and our own consciences for our future men and women. I don't know anything about our white school but Mrs. Crane says it is fine.

But the negro school, however, I do know is a disgrace to the dark ages, it is inadequate in size, damp and everything it ought not to be —and many of the country school houses are a scandal. I have been told that the closets are awful if they have any at all.

In connection with this I would like to speak of some of our other public buildings. The jail, lock-up, court house and poor house.

Mrs. Crane says that our jail is the very worst she ever saw, and that the station house is no better. We, at least, might have plenty of fresh air, bath tubs and screens in these buildings. We are so quick on the trigger, ourselves, that we ought to remember that we may take the place of the poor wretch who languishes in these unsanitary holes. In the temple in London there is a buttress with a grating higher than a man's head where they used to wall a man up for punishment. Our jail is not quite that bad, but why do we who do not believe in just punishment for murder for instance, confine tuberculosis patients with well prisoners to inoculate them with almost certain death. Mrs. Crane believed this was ignorance, but I believe it is that happy-go-lucky laziness, that don't-care spirit, which is in all of us from the highest to the lowest.

Why don't we fix up the poor house and care for those poor people whose only crime is misfortune and who have often been as hard working as anybody. We have money enough, as we have $2,000.00 laid by for the purpose. No, we like to let our poor house keeper to get rich, buy blue grass farms, and have fat cattle to graze on his own land.

There is in the Utopian town a county infirmary on the cottage plan, with every cottage screened and connected with the sewer. There is a trained nurse with bowels of compassion, not a Gibson girl with a gaping pocket-book, a money making machine. There is a servant to clean the cottages. The people have clean beds free from vermin and clean bedding and bed linen. They are clothed in clean clothing suitable for the season. They have good wholesome food. The aged, sick and infirm do not look after themselves, and each other and their cottages.

I am old-fashioned enough to think that God, who watcheth over Israel and neither slumbers nor sleeps, will judge us for our jail, station house, county poor house and negro school.

As for our very temple of justice, itself, screens should be put in, a very general house-cleaning inaugurated. The cause of that ammoniacal odour found out and put a stop to. The spitting ordinance rigidly enforced. It goes to the grain to have to pick your way in the court house to keep from stepping in sputum. While speaking of public places, I should like to say that so far I have only heard of two closets for women exclusively. The girls who work in offices and stores, either have none or public ones. For the girls' protection from disease and insult, and for decency's sake, they ought to have private lavatories. Moreover, there is no rest room or lavatory for country women who come to this town to leave their money in our coffers..

I will now discuss the way supply water to be pure must be pure at its source and not contaminated afterwards. That is the case in my city, as no sewage goes into it. The sewage being gathered into vats, evaporated to dryness after being mixed with lime and burnt. In Cynthiana it is sickening to think that even the bath water is contaminated with sewage. But ideally the water is purified by a filter and is the best, up-to-date one, and none too good, we think for us and our children. The water is allowed to stand in a reservoir till it settles and something used to help the sedimentation then the top flows through a filter of sand, broken stones and scrap iron, then over an incline to subject it to the action of sunlight and air and then into a perfectly clean screened reservoir.

In cities of the fourth class, most people have cisterns. They are now built higher than the surrounding ground and a conical shape, and protected by concrete platform so that the surface water cannot flow in. Gauze should be tacked over the opening and the spout protected, above all a good filter is necessary. The house should be thoroughly washed off before allowing the water to flow into cisterns. The objection to cisterns are that the water supply is uncertain; the filters are not always adequate, the cement cracks easily on the walls, thus opening a way for fecal and other contaminations. Old fashioned wells are to be utterly condemned. Artesion wells, if deep, are the best for drinking water.

The milk supply, surely, ought to be all right and is in that ideal town. The cattle inspected by a competent veterinary for tuberculosis and any other disease, given tuberculin. The barns are screened, large enough for cows to have plenty of air, space and a sufficient number of windows for light and ventilation. The floor of the stable is cement so that it may be flushed with water, and the cows have a clean place to stand. The liquid manure should be carried off by drains behind each stall, and the dry collected in covered pits, as the manure is a favorite place for flies to breed, whence it should be carried at frequent intervals in covered wagons to the fields and scattered as a fertilizer. There should be a dry lot for the cows to exercise. Dry food is fed to the cows, still slops act as a purgative and is unhealthy besides, as it fattens the cattle too much. No good milch cow is ever very fat. Good water and plenty of it, too. The cows should be curried and washed off with good clean water. Before milking the udder is washed off with warm water and soap and rinsed in clean water. Then the milker scrubs his hands and his clothing is clean. Wash overalls. The cow is not milked in the stable. The cans used for the milking are first scrubbed with a brush with soap and water and rinsed in soda and subjected to enough heat to sterilize. The milk bottles are clean and sterile, the caps are kept in the milk house and the milk is cooled after it is strained, and before it is bottled, no benzoic acid or formaldehyde is used to preserve it, but sterilization and ice are depended on to keep it sweet. The health officer frequently stops the wagons and takes milk to the office to analyze it, to find its solid contents, water, etc., and for microscopic work. A sharp lookout is kept on the butter, too.

It is desirable that there be one abattoir, well screened and kept perfectly clean, with a cement floor. Drainage should be good to dispose of blood and water. The offal must be disposed of, but I have never heard of any way but burning it. Of course hoofs, horns and hides are used in commerce. The cattle are to be inspected by a good veterinary and given the tuberculin test before they go to the butcher. They are not to be slaughtered if they are emaciated or overheated, and, of course, no tubercular cattle are allowed. They must be well-bled. The kocher whets his knife and if as he tests it, by drawing it across his thumb nail, he finds any inequality in the blade, he sharpens it again. This is to insure a clean cut. The cow bleeds to death. When he opens the pleural cavity, if there is the least adhesion, the carcass is rejected.

After death, before any of the meat is allowed to be sold, it must be examined microscopically for any of the various tenia, and swine's flesh is examined for tenia and bubuchina spirallis, etc., etc.

All the butcher shops must be screened and no meat hung up outside. The refrigerators are to be kept absolutely clean and sweet and elbow-grease not spared. The lining is of zinc, scrubbed with a brush and oxalic acid crystals, like hospital ice boxes are scrubbed and a stick run through the tube where the leakage from the ice passes, to see if it is clean and free and scalded with hot water. The floors are well scoured, not covered with saw dust to hide dirt.

Now, here a word on our groceries and fruit shops, which are enjoying a fine pest of flies. They expose fruit and green vegetables without so much as a netting over them. In the interiors, the swarm goeth where it listeth, into the sugar barrel, into the meal, any old place, and of course the fruit and vegetables have a great deal of attention. This is a little disgusting to some who see the state of affairs, particularly when it is remembered that there are old-fashioned closets in all the back yards, just outside the doors. The grocerymen seem to be of the same opinion as a dear old soul, whose name I will not mention, who while drinking his tea, kindly helped a fly out of his cup and carrying it to his lattice window, liberated it, saying, "There is room in this world poor devil, both for thee and me." There is not room in this world, for one fly, now. Mr. Harry Word used to say that he had no objection to the fly, but he kept bad company and frequented objectionable places. He keeps company with typhoid, tuberculosis, hookworm, venereal diseases, bubonic plague, sepsis, cholera, smallpox, etc., etc. He frequents filth by preference, loves a soft place, has a sweet tooth, is no believer in race suicide, or in limiting the population. He sees his children's great grandchildren, and everyone knows he follows in the wake of every disaster and horror of the children of men, war, pestilence and famine. I cannot truthfully lay war at his door, but I can say that he helps every dread disease to find victims, and here he is prevading our grocery stores.

Our food must be clean, why should the groceries not be compelled to cover their wares and not expose them on the street to flies, dust, horse manure and human touch?

If the individual drinking cup is a law and a necessity, and it is, for who wants to drink after syphilis, tuberculosis, typhoid or any other unclean lips, I am sure good clean food is just as essential as pure water.

The green groceries should be fresh and not withered, and the bread should be wrapped. When I think of the hands one loaf of bread goes through and how many times it is dropped and how many dirty places it rests on, I feel like living without the staff of life.

We are reminded, now, of the soda water fountains, which ought, certainly, to be inspected to see what kind of care the glasses, cups and spoons receive, and what is sold at the counter.

The peck of dirt we all have to eat, has been increased to a bushel owing to our being immunized. Flies, also, invade the soft drink stands. I should love to see a fly crusade, everyone with a fly trap, and children and negroes paid for the flies they catch. I have some wishes dear to my heart, one is that the fly and mosquito may disappear off the face of the earth. There are no flies in London and Paris, and, of course, not a screen needed. They have been destroyed in certain localities and can be anywhere.

As the town draws from the country it may not be amiss to speak of conditions there. The country people cling to anything longer than the town people, and I suppose that it will be fifty years before we will see them screen their houses, have sanitary closets and fix up their school houses.

Just here I should like to say we doctors should make it a matter of conscience, what man we send to the General Assembly. We should find out how he feels about the tuberculosis bill, how he stands as to the State Board of Health, if he believes in preventive medicine as he has a voice and a vote in what is dear to us and essential to Public Health.

I have not mentioned that in the time of an epidemic or if there is one case of contagious disease, the house or houses must be rigidly quarantined and all excreta mixed with saw dust and burned or thoroughly sterilized if they are allowed to go into the sewer. The linen and everything used about the sick sterilized. If there should be a death, the body must at least be wrapped in a winding sheet and placed in a sealed coffin and no public funeral permitted. The house or houses thoroughly fumigated after infection is over.

In conclusion, we should like to see all the people know the benefits of cleanliness in person and houses, the fact of proper ventilation of sleeping rooms, how to take care of tuberculosis patients to keep from spreading the disease, and to know how beautiful is holiness and correct living. That they would be aroused to feel that they have no right to entail disease on future generations or spread it amongst the present. The town ought to be well lighted in the by-ways and alleys, as evil doers like darkness rather than light and cleaned up from such evil doers who are a peril to us morally and physically.

PIONEER MEDICAL JOURNALISM IN KENTUCKY.*

By J. G. Hendricks, Central City.

In all periods of the history of Kentucky citizens have been creditable, and honorable, citizens have been pure in chivalry and patriotism, in politics and statesmanship, in law and theology. Educational institutions from high school to university, have also been pure. The medical profession of pioneer days was represented by such men as Lawson, Dudley, and McDowell. Such men and the legislators of the State established the seventh medical college in the United States, and the first west of the Alleghaney Mountains, in 1818, the "Medical Department of Transylvania University," at Lexington, Kentucky. Graduates of the university shed luster upon their alma mater and the medical profession.

Among the first, if not the first, medical journal established west of the Alleghaney Mountains was *The Western Lancet*, established at Lexington, Kentucky in 1841, edited by Dr. L. M. Lawson, a man of ability and zeal. I have a penchant for old books. While looking through a second-hand book store, thirty years past I found volume six, 1847, of *The Western Lancet*, bound in half sheep. I willingly purchased it. Believing that the readers of the Kentucky Medical Journal would be interested in reading extracts and excerpts from *The Lancet*, exhibiting the evolutions of diagnosis, and thereapeutics in seventy-five years, therefore, I offer no apology for offering the following:

The Western Lancet was a journal of from sixty to eighty octavo pages of current literature, divided into Original Communications, Reviews and Notices, American Summary, Foreign Summary, Notices of Empiricism, Editorial, and twenty-four pages library department, each bi-monthly issue of "A Manual of Diagnosis of the Diseases of the Heart," by Dr. Felix Andrey, former Chef de Clinique, at Lea Charite Hospital, Paris.

The first bimonthly issue of the volume is interesting. The first original communication is especially so. "Art. 1. Observations on the Diseases of Green County, Ohio," by

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*Read before the Muhlenburg County Medical Society.

John Dawson, of Jamestown, Ohio. The complete article gave evidence that Dr. Dawson was an able thinker and reasoner. He afterwards was a distinguished practitioner and teacher in Cincinnati. After a general discussion of the diseases usual he says:

"Both cholera morbus and cholera infantum have been less frequent, while fevers, bilious remittent, and intermittent, have had an almost unexampled prevalence, a few cases of typhus, and also some cases of what is denominated typhoid fever. Bilious fever prevailed some in August and September, greatest in October. The cases in August and September were mild, easily controlled with purgatives and quinine, no cases lasted more than five or six days, several cases were attended with high fever, high arterial excitement, dry, hot skin, violent pain in head, dry tongue, and delirium during exacerbations, that by these means alone, without the use of the lancet, were convalescent by the seventh day; however, I used cold water freely externally and internally.

"During October I was called in consultation with Dr. Thorn, of Clifton, to see some cases of bilious fever that exhibited a degree of malignancy different from anything I have witnessed before or since. Believing that the notes of these cases would be interesting, I procured from Dr. Thorn a copy and here insert them.

"'L. H., a farmer, 18, good constitution, previous health good, commenced complaining last of September with chill, followed with moderate febrile excitement, remission in twenty-four hours. September 29th, took cathartic pills which operated freely. On the 30th, the fever being remittent, he was bled, took quinine, 20 grains, in broken doses.

"'October 1st, high fever remission in the morning, full, strong pulse, tongue moist with thick yellow coat, pain in head, back, and limbs, one or two motions of bowels. Prescription, 2 grains calomel and half grain ipecac every two hours until remission in the morning, then 4 grains quinine every third hour until the exacerbation.

"'October 2nd patient very restless, pain and uneasiness in region of stomach, skin dry, constant nausea, pulse frequent and small, cheeks livid, tendency to purging. Prescription, calomel, opium and ipecac, mucilaginous drinks, an epigastric to the abdomen.

"'October 3. Patient growing worse, pulse very small and frequent, tongue dry, frequent watery discharges from the bowels. Prescription, the combination of calomel, opium and ipecac, continued with infusion sanguinaria canadensis.

"'On the 4th evidence of fatal issue very strong, great restlessness, dry tongue, prostrating diarrhoea, shrunken countenance, extremities cold, sinking sensation about precordia. Prescription, opium and carbammonia. The patient lingered a day or two and died.'"

"'Case 2. Mrs. H., forty or more, addicted to paroxysms of dyspepsia, about 3rd or 4th of October stricken.'" The recorded symptoms same as first case. "'Calomel was administered followed by castor oil, after this operated she was put on quinine which was continued until chills entirely subsided, notwithstanding she still had fever, tongue became dry.'" The recorded symptoms and course same as case one. "'She took calomel and opium, an infusion of sanguinaria canadensis, a blister applied to abdomen, without any benefit, became delirious and died.'"

"'Case 3. '" The recorded symptoms same as case one and case two. "'Fever first not high, bowel affection very urgent, stools very dark first, became colored, liquative. Calomel and opium, an epigastric to abdomen, prostration supervened, stimulants freely used, the patient died the fifth or sixth day.'"

"'Case 4. Octobera 1st Mrs. W., first fever moderate, had a remission of mornings, first seen October 9th, having previously taken cathartics, also quinine in small doses. Prescribed five grain doses of quinine every fourth hour, as soon as remission perceptible, continued until she took twenty grains. On 10th more fever, cream of tartar and jalap until bowel moved freely, after which quinine resumed. 11th, tongue red on edges and dry, abdomen tender, diarrhoea. Prescribed calomel and ipecac, and opium, blister to bowels. Oct. 12th., growing worse, prescribed calomel, ipecac and opium, two drachms infusion sanguinnaria canadensis every fourth hour, continuing to grow worse, put under carb-ammonia and wine, patient died.'"

"'Case 5th. Violent remittent fever, remission incomplete, was bled freely twice, purged with calomel, jalap cream tartar, fever declined, convalescence was expected, the patient died.'"

Dr. Dawson resumes his discussion under such phenomena, what medicines should be used to reduce fever, or should treatment be directed to local inflammation and restoration of secretions, whether or not we have any drug entitled to name febrifuge. In former times it was supposed the nearest approach to it was the specific effects of mercury, the displacement of fever by substitution of the mercurial disease, the opinion seems current that quinine has strong claims to the character febrifuge. There is two plans, ptyalising and the antifebrile powers of quinine."

"Intermitten Fever, Treatment. I have adopted the practice of administering a purgative after which the system was put under influence of quinia and carb. iron. I witnessed but one case in which hydropathy was used, it failed to give relief. I cured with quinia and carb. iron."

"Typhus Fever. A young man was attacked and died, four of his nurses became afflicted and died, five that waited on nurses took the complaint and died, there were thirteen cases, two-thirds died. The cases were ushered in with languor, indisposition to exertion, chills alternating with heat, stage of premonition lasted five or six days, tongue coated, edges red and granulated, evidence of gastro-intestinal inflammation, decided irritability of stomach. In others diarrhoea set in soon, and continued to the last, bowels tender, but little metorism, in the second and third stages the skin became soft, in some perspiration copious, the tongue became dry and chapped. Of the treatment, some were bled by physician first in charge of the cases, became prostrated most of them died. Purgatives had to be used cautiously. I used hydro creta, rhubarb, and oleum ricini, the first seemed to answer best, against the last I became prejudiced. Opium was the main remedy to allay distress in bowels. On quinia I put several patients for a number of days, no good nor harm resulted, ptyalism was not tried. I have no confidence in efficacy of this form of fever.

"Angina Maligna—Diphtheritis. On the stomato-pharyngian mucous membrane lesions first appeared, they consister of inflammation not inaptly termed 'asthenic hyperemia,' after a few days there was thrown out a membraniform exudation extending in some cases into air passages giving rise to secondary croup, in five of nine cases it extended into the larynx and trachea. All died in twenty-four to forty-eight hours. Therapeutics consisted in emetics, and application of muriatic acid and tincture of capsicum. General remedies are not of as much importance as local."

The second article is an original communication:

"Art 2. Observation on Cancrum Oris, by Dr. T. M. Tweed, of Georgetown, Ohio.":

"The disease has been variously denominated cancer aquatiens, apthae serpentis, gangrano aris, noma, stomacace gangraenosa, and consists of certain sloughing or gangrenous ulcers of the mouth with afflux of saliva, almost exclusively confined to children from second to tenth year, generally considered symptomatic. I am convinced of its essential idiopathic nature. I am aware that it frequently follows the administration of mercury. I believe a latent predisposition to the disease has been aroused by administration of mercury. To sustain my view, I will refer to the fact that it frequently follows eruptive diseases in which no mercury is used. The parts have been red without swelling, loose vitality along margins in contact with the neck of teeth, the living structures in contact with sphacelated portions are red and painful, bleed with slightest touch, in crease of saliva, the breath becomes horribly offensive, the teeth become loose, the aveola processes perish from necrosis, the teeth drop out. The disease extends inward involving tongue, or outwards implicating the cheek internally, a grey, livid or dark purple spot appears externally which becomes black, shrivels and dries, which was at first not more than a split pea by the fourth day is as large as a half dollar, and to the same extent internally, soft parts loseing connection to bones, bones become necrosed. Treatment. I mostly rely upon topical remedies in early stages, vesication followed by a poultice of carrots, yeast and slippery elm bark, often arrest progress. When these fail and sloughing established, local stimulant is required to insure contraction of over-distended capilaries. I have used sulphate of copper with advantage, should this fail, nitrate of silver in substance, muriate of soda, muriatic acid and honey, caustic potash, and muriate of ammonia should each be tried. Moidal recommends nitric acid.

"The application of the actual cautery introduced by Henry Obre, Esq. I repeatedly used it with marked benefit, after the cautery has been used a yeast poultice applied in a day or two slough is thrown off, granulations and contractions soon take place."

It is evident that the cases described by Dr. Dawson as remittent fever in the first article was a dual infection, malaria and typhoid, or the two diseases existing at the same time. Condie believed this to be a distinct disease and gave the name "typhomalarial fever," but he afterwards abandoned the theory. Physicians practicing in intense malarial districts, thirty or forty years past, frequently met cases of dual infection, malaria and typhoid, pneumonia and typhoid.

Cancrum oris, described by Dr. Tweed was ptyalism. I treated many cases which was the result of an old doctor early in my practice.

The Department of Reviews and Notices were of the new books of the day. The reviews are thoughtful and discerning.

The department of "American Summary," is extracts from contemporary current medical journals of the time, one is of interest. "New and Summary Mode of Creating Lawyers and Doctors," (*St. Louis Medical and Surgical Journal*). The celebrated act of our Legislature, to which we have among other provisions, contains the following:

"'Section 7. Every person, or copartnership of persons in this State, who shall follow the practice of the law for a livelihood in whole or in part, is hereby declared to be a lawyer, and every person or copartnership of persons in this State who shall follow the practice of medicine for a livelihood in whole or in part, is hereby declared to be a physician.'

"Our law schools and medical schools may now close their doors forever, for who will be so stupid as to go through a laborious course of study obtaining a diploma, when by the act of the legislature he is declared to be a lawyer or doctor, solely by hanging out his shingle."

The Foreign Summary is extracts from the various European journals.

Notices of Empiricism, a correspondent writes:

"A water doctor located at Sinking Springs, (Ohio), who enjoys quite a reputation as a cure-all for chronic and obscure diseases, after having confessed to a physician that he only tacked on the 'pie humbug' to gull the people his reputation has not decreased in consequence.

"A clairvoyant doctress. Dr. Sabine, read to the New York Pathological Society his notes of the examination of the body of young Mr. Oatman, the subject of a coroner's inquest, he having been under the treatment of a clairvoyant named Johnson. He had been considered by her affected with ulcers of the stomach. She had promised to cure, giving him McMunn's Elixir of Opium. Mrs. J. would not allow him to be visited by any regular physician, lest it should occasion fatal haemorrhage from the ulcers. He presented all rational signs of phthisis. On post-mortem examination both lungs were so loaded with tubercular matter as to prevent collapse, large and small vomicae existed, the stomach was healthy. When it was discovered that Mrs. J. had erred in diagnosis, she was again 'spiritualized' by the person connected with her and the following statement made: 'When I looked at him his lungs were in dreadful state all ulcerated, his stomach too. R. and old Mr. O. were present no one else. I never said he would get well, but that if his strength held out I might help him. His liver was in bad state, his lungs were so tender if he died they would drop to pieces. Second examination the same three present. Fifth examination. Found but little chance for him, ulcers in stomach and lower part of lungs breaking, matter running from them. He took the Hadlock medicine which operated powerfully for twenty-four hours. I did say he would die with consumption and he did, difficulty of stomach rotted his lungs. His father told me he passed scabs in his chamber. Where did they come from, if not from the stomach?"

"N. Y. Annalist. A New Doctor (*N. Y. Annalist*) Homeopathy has a formidable rival in the affections and confidence of the 'upper ten,' in the celebrated 'Mekorka, recently settled in Bleeker street. He has a large number of testimonials of his skill signed by councilors of state, priests, and medicine men, as well as the Miss Martineans, Sir E. L. Bulwers, of the Osage nation. His Osage mesmerism is fine, as a clairvoyant he is unapproachable.—N. Y., March, 1847.—(Moore Hoit)."

"Uroscopian Practice. One f the German doctors located near a watering place where impotent, blind, halt, and withered congregate, who after two or three years carried the sum of $12,000. He occupied about three minutes in examination, used no tests, simply shook the vial and looked at the contents. One of his famous remedies was the 'froth of the sea,' simply a solution of epsom salts.

"The following is a case of his diagnosis: Patient had inflammation of ear, was recovering, but troubled with acidity of stomach and flatulence. The 'doctor' was invited to see him, he put up his 'two ounce vial,' The following was returned: 'You have cold inflammation of stomach and slimy adhesion of the abdomen.' The wife of patient in good health but three months enciente, emptied the vial and filled it with her urine.

"Another description, "You are afflicted with weakly digestion of stomach, stoppage of absorbents, atropied liver affect of the nerves, weakness of the back, palpitation of the heart, pressure of the breast and lungs, and stoppage of pancreas."—(*Boston Medical and Surgical Journal.*)

The mass of the people are probably as gullible now as in 1847, but legislation protects them, but not by their desire.

The editorial department is a review of the status of the inhalation of sulphuric ether as a lethal agent although used in almost every city and village it says:

"In the meantime the more cautious and prudent have looked with some degree of apprehension to the results, thus far no serious accidents have been reported. It would still be premature and unphysiosophical to assume that equal immunity can be claimed indefinitely. But another consideration is the hypothetical but not improbable secondary results. It will be remembered that M. Magendel says its most remarkable effect was to dissolve the blood corpuscles, but did not prevent coagulation. If the blood is thus changed it follows that the nervous and other functions may be seriously impaired. The question is whether the immediate effects, and secondary consequences may not be more prejudicial than effects of pain during a surgical operation, the subject is open for investigation until something more definite is known, etc., etc."

The library department was the first twenty-four pages of Andrey's book on diseases of the heart.

HERNIA IN CHILDREN.*

By John B. Richardson, Jr., Louisville.

In selecting a subject which was surgical and at the same time applicable especially to children, as suggested by your Secretary, I decided upon hernia for several reasons. In the first place this is a disease which has its beginning in one-third of the cases during childhood. Secondly, a large number can be completely cured at this time without surgical interference provided proper mechanical treatment is applied. Thirdly, I have used this subject for your consideration because it seems to me that in the last three or four years I have seen hernias so frequently in persons who have been advised by their family physicians to do nothing toward a cure, assuring the parents that their children would outgrow the trouble. If I can persuade you that this last is the most improper advice which can be given to any parent at any time I shall feel that my efforts have accomplished great good.

This is a question which, if gone into fully, would take more of your time than you would care to accord me, so I shall deal only with those points which will be of the most benefit to us.

At the present time most authorities are agreed that oblique hernia, no matter where they first manifest themselves, are congenital. By this is meant that a pouch preformed of peritoneum exists since birth. "Congenital" hernia has been used to describe that form of hernia in which the tunica vaginalis is open and the peritoneal cavity communicates with it. This application of the term is not used here but a congenital weakness is meant. Various names have been given hernia to denote the relation of the peritoneal covering with the hernial contents. These are familiar to you and will be passed.

Where statistics are necessary I shall use those from the Ruptured and Crippled Hospital as I know them to be quite reliable and they vary only slightly from those of other clinics. Of 75,544 cases 25,126 occurred in children below 14 years of age. Of 70,090 cases 53,009 were noted in males. At this clinic it was seen that about 25 per cent of patients give a history of hernia in the family.

When the cause for hernia is sought, as noted above, the fact of a congenital weakness should always be remembered. With those who believe the large proportion are congenital the other factors which might be thought as causes are considered as contributing only. Phimosis, according to Coley, has no bearing in causing hernia. Other writers think it has. Whooping cough is looked upon as a secondary cause also. Constipation, continued crying and undue lifting bear the same relation to the causation. Local trauma is very rarely a cause of hernia.

The diagnosis is usually made by the mother, who brings the patient to you with the history of a tumor being noted either in the inguinal region in case of inguinal or femoral hernia and in the umbilical region in case it is an umbilical hernia. This tumor is not constantly present, being often times more noticeable while the child is crying. Pain is not usually present as is often noted in adults. It may occur at any age.

Adenitis may be mistaken for either the inguinal or femoral type. Here the tumor is not reducible. Examination may show cause for enlargement of glands to be an acute gonorrhaea or some infected area on foot or leg.

Psoas abscess has been confused in arriving at a diagnosis. The tumor may be lessened in size or completely disappear in this condition. Palpation shows fluctuation extending into the loin. Examination denotes kyphosis or other evidence of Potts disease and by this we can eliminate hernia.

Undescended testicle has been a source of error. Its absence from the scrotum makes a diagnosis. In examination of all cases inspection of the scrotum should be made and this mistake will not occur. Hernia are often associated with a combination of undescended testicle and by hydrocele of the cord.

Hydrocele must be eliminated. Absence of impulse on coughing is noted. Hydrocele may be reducible and it often occurs with hernia. Hydrocele is seen so frequently in children that it should always be borne in mind when we are considering hernia.

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*Read before the Oldham County Medical Society.

Children are subject to the same accidents in hernia as are adults. Obstruction, inflammation and strangulation are seen, although less frequently than in older patients. As in other surgical diseases in infants and children they are quickly prostrated and prompt action is essential. Little effort should be made at reduction. Operation for radical cure will produce much less shock than will prolonged taxis.

Prognosis is good.

Treatment and cure is the important consideration both to physicians and parents. The treatment is mechanical and operative. Children under four, unless some complication arises, should be given the benefit of truss treatment. Some writers claim that 50 per cent. of inguinal hernia can be cured by truss. I have seen very few umbilical hernia in children even up to the age of fourteen fail of cure where proper mechanical means are used. Femoral hernia does not occur frequently before puberty. It is difficult to properly fit a truss and results from mechanical cure are far from good here.

The question at what age to institute mechanical treatment, which arises, can be no better answered than by quoting Dr. Garmo who says, "An infant old enough to be the possessor of a hernia is quite old enough to have the hernia treated."

There are innumerable trusses on the market. Many are excellent. Some have points to recommend them; many are worthless. One known as the "cross body" truss has everything it should have to effect a cure. It should be covered with some material not affected by water. The spring should not be too strong. Most frequently too much pressure is used. If the pad is placed over the internal ring and held there by only slight pressure we have all that is necessary. At the Ruptured and Crippled Hospital a metal spring which is covered by rubber tubing is used. To the spring a pad is attached by a shank at right angles. A leather strap connects the two ends of the spring which almost encircles the body. Some authors object to this form of truss. They are inexpensive and I know they produce cures and this is the form of truss I always use. The measurement should be taken about one inch below the crest of the ileum. The number of inches here indicate the size of the truss needed. Have child recumbent and be sure hernia is completely reduced before applying truss. Do not have too much pressure as the skin is easily irritated. Alcohol and talcum powder should be used to avoid pressure sores. Urine should be washed off the parts as soon as voided or as soon after as possible. The truss should be worn at all times. In bathing these children the truss is removed only long enough to clean under it and then only when the child is recumbent. Frequent observation by the physician is necessary as the child rapidly increases in size, and change of the amount of pressure is important. New trusses should be gotten as indicated. A truss too small accomplishes nothing toward a cure. Impress upon the mothers the importance of their cooperation in the treatment. Teach them the proper method of applying the truss and fully 40 per cent to 50 per cent. of inguinal hernias will be cured.

In umbilical hernia, as noted above, I have seen only cures. Of course, some failures do result. A wooden button one inch in diameter is covered with adhesive plaster. This button is placed over the umbilical opening and held in place by plaster about two inches wide which encircles the body. This is changed as indicated. The same close attention is necessary to prevent irritation to the skin as is indicated in inguinal hernia. Special umbilical trusses made of elastic webbing are much less effective than is adhesive and should not be used. Some cases are cured after a year's treatment. Better, however, is to advise the truss to be worn for two years. If the hernia then returns operation should be advised.

There have been many good methods advised for radical cure. Each man reports and seems to get good results by means of his operation. I personally consider the Bassini method as modified by Coley and Bull to be the operation of choice. What seems an error to me is followed by many surgeons of using one method to-day and another to-morrow. It seems wise to me to decide on one plan, become expert in that, and use it to cure all cases. Simplicity and the use of the fewest number of ligatures necessary to accomplish the desired result are to be advised. The Bassini method embodies this. An additional suture is placed above the exit of the cord by Coley and Bull and thereby closes a point where some relapses have their origin. Bassini advised the transplantation of the cord. Results are as good where this is not done. In those cases associated with undescended testicle transplantation should not be done as we are able to bring the testicle down lower into the scrotum. The effort to fix the testicle in its normal position is difficult and lessening of its tendency to return to the canal may be accomplished by not shortening the cord. The question as to the advisibility of removing the testicle in these cases will not be discussed.

Emphasis can not be made too strongly as regards two or three points in doing a Bassini operation. Do not hamper yourself with a small incision. In making the dissection of the internal oblique from the deeper structures go well in toward the middle line. Expose a large part of the conjoined tendon. If trouble is experienced in separating the sack open it and it will be found much easier of accomplishment. Transfix the sack high up. This alone will cure some cases but it should not be depended upon. In placing deep sutures take a large amount of the conjoined tendon. I have seen some operators include 1-8 to 1-4 inches of the conjoined tendon. The fibres here separate. Constriction of this tissue and cutting through of the suture and recurrences may result. Place the upper suture first, just below the cord, and tie as you proceed. This will bring Pupart's ligament sharply into view. In applying lowermost sutures take a small amount of Poupart's ligament and avoid injury to femoral vein. If this accident occurs remove suture and apply pressure for a few moments. I have seen this occur with no bad results.

For the deep sutures use kangaroo tendon, medium size. It is better than cat gut here. External oblique closed by means of chromic cat gut; skin by plain gut. I have always used Van Horn and Sawtell suture material and see no reason to change. Gauze dressing is held by adhesive; a plaster of Paris spica is used for two weeks in children. They are unable to remove the suture line with this applied. Remove the plaster at the end of two weeks and apply simple adhesive plaster. Allow this to remain one week, then replace it and send patient home. All dressings may be removed at the end of four weeks.

BOOK REVIEWS

A Clinical Manual of Mental Diseases—By Francis X. Dercum, M. D., Ph. D. Professor of Nervous and Mental Diseases, Jefferson Medical College Philadelphia. Octavo of 425 pages. Philadelphia and London: W. B. Saunders Company 1913. Cloth, $3.00 net.

In this day when we hear so much of aliens and their conflicting and highly technical opinions, usually at variance with one another, the average medical man begins to wonder if he has any knowledge at all of mental disorders and half doubt if alienists themselves really know anything of the subject. This book re-assures one that there is such a thing as an intelligent grouping of mental disorders, in a sensible discussion of their variations, symptomatology and treatment. To any one who wants to set himself right and have back of them abundant authority for this purpose, this book is recommended.

Applied Bacteriology for Nurses.—By Charles F. Boldman, M. D., Assistant to the General Medical Officer, Department of Health, City of New York and Marie Grund, M. D., Bacteriologist, Department of Health, City of New York. 12mo. of 166 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth $1.25 net.

A perusal of the various chapters will show that a study of all the ordinary modes of transmission of infection has been presented and thorough instruction as to the care of transmissable diseases has been given to the nurse in a way to secure proper handling of these cases. It is well illustrated and is a book of 110 pages. Price $1.25.

Blood-Pressure, From the Clinical Standpoint.—By Francis Ashley Faught, M. D., of the Medico-Chirurgical College, Philadelphia. Octavo of 281 pages, illustrated. Philadelphia and London: W .B. Saunders Company, 1913. Price $3.00 net.

This book meets the demand created by the popularity of blood pressure studies and enables the physician to keep in close touch with the conditions that heretofore have been puzzling and misunderstood

Diseases of the Eye.—By George E. deSchweinitz, M. D., Professor of Ophthalmology in the University of Pennsylvania. Seventh Edition, thoroughly revised. Octavo of 979 pages, 360 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $5.00 net, half morocco $6.00 net.

This is the seventh edition of this book and is a handsome volume. To those familiar with the former edition, it is unnecessary to say that in this, the new one, nothing need be added to bring the subject up to date and it is recommended to the doctors of Kentucky.

Medical and Surgical Reports of the Episcopal Hospital—Volume 1. Press of Wm. J. Dornan, Philadelphia. This volume of 402 pages contains a great deal that is interesting in the way of morbidity records, pathological laboratory reports, descriptive surgical procedures and excellent illustrations of operations, surgical reports and pathology. The Editor is to be congratulated upon this contribution to modern medicine.

A Reference Hand-Book of Gynecology for Nurses.—By Catherine Macfarlane, M. D., Gynecologist to the Woman's Hospital. of Philadelphia. Second Edition, thoroughly revised. 32 mo. of 156 pages, with original line-drawings.

Philadelphia and London: W. B. Saunders Company, 1913. Flexible leather, $1.25 net.

Practical Medicine Series, Volume 1, 2 and 3.—Published by the New York Publishers. Volume 2 is by Murphy and Volume 1 by Billings and Salisbury, Volue 3 by Wood Andrews Head, on Eye, 3ear, Nose and Throat. The price of these volumes is $2.00 each, and the practical material found in theme is worth many times this much, and of the time necessary to master it.

Massage, Fourt Edition.—By Douglas Graham, with a chapter on massage of the eye by Dr. A. Darier Paris and published by J. B. Lippincott Company. This book contains 570 pages; takes up the history, the physiological application and results of massage in quite an exhaustive way and many of the measures he suggests are of decided practical value.

Laboratory Methods.—By Williams & Williams. Published by C. V. Mosby Book Company, St. Louis This gives the busy practitioner some practical notions about how to make his bacteriological examinations and, at the same time, is complete enough to be a real value to laboratory workers.

Blood Pressure and General Practice.—By Perciful Nicholson. Price $1.50. This book contains 128 pages and is a review of practical things in blood pressure. Published by J. B. Lippincott Company, Philadelphia.

Muler's Serodiagnostic Methods.—By Ross C. Whitman and published by Lippincott Company, Philadelphia, is a book of 143 pages and is a clear presentation of the subject of serum diagnosis.

THE FORUM

A NEW CHEMISTRY NEEDED (?)

To the Editor:

The following was clipped from one of our leading newspapers:

> "The first time I was bitten by a rattlesnake was in 1897. I was sick at the stomach for some time, but I cut the wound and let the blood flow, using *pomegranate* of potash and *aqua* ammonia, which is the *strongest* solution of ammonia."

J. H. Hendren.

Working Bulletin No. 6 on the results following the use of Typho-Bacterin and Typho-Bacterin Mixed will be mailed free upon request to H. K. Mulford & Co., Philadelphia, Pa.

These bulletins give a great deal of information regarding the typhoid bacterin and are a convenient size to hang in the office.

NEWS ITEMS AND COMMENTS

Dr. A. Wainscott, of Bethlehem, ex-President of Henry County Medical Society and member of the Henry County Board of Health died at Norton Infirmary in July.

Dr. Howard, formerly of Louisville, has located at Bethlehem.

Acne.—Treatment.—1. Following lotion advised: Zinci sulphatis, potassae sulphuratae, sulphuris praecipitati, of each zj; aquae, zziv; to be applied at night. 2. To keep open orifices of follicles, resorcinol in 10 to 15 per cent. paste, recommended. 3. If skin thick, sluggish and oily: Preliminary washing with tincture of green soap. 4. Warm water may be used after incising pustules, to favor bleeding, but for washing cold water is preferable. 5. X-rays of service (a) to increase local blood- supply and improve resistance; (b) to cause atrophy of sebaceous glands. 6. High frequency current useful to reduce induration of nodular acne. 7. Massage or local manipulation, to facilitate drainage of ducts. 8. Dermal curet, when pustules cured and superficial epithelium somewhat macerated by resorcin.—Chipman.

Arteriosclerosis.—Treatment.—1. Rest for the whole body and particularly any organs specially involved in sclerotic process. 2. Diet such as will avoid all digestive disturbances. 3. Judicious restriction of fluids. 4. Systematic hydrotherapy, carbon dioxide baths or electric baths. 5. Iodides only whree angina pectoris, syphilis, or eye affections due to sclerosis of retinal artery. 6. Diurtin, especially valuable in angina pectoris and tobacco heart; lowers blood-pressure markedly afte rsome weeks' administration. —Von Noorden.

Urticaria.—Treatment.—Epinephrin given subcutaneously in doses of 8 minims (0.5 c.c.) in 6 cases. Two doses always caused complete fading of rash and cessation of itching in ten to twenty minutes. Recurrence probable in an hour or two unless treatment continued.—Swann.

Epilepsy.—Treatment.—Solution of 1 part of phosphorus in 10 parts of oil used in 9 cases of severe epilepsy, and generally caused pronounced reduction in frequency of attacks. Enterogenous autointoxication to be overcome before phosphorus begun.—Leubuscher.

W. H. WATHEN MEMORIAL NUMBER

Kentucky Medical Journal

Being the Journal of the Kentucky State Medical Association

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Vol. XI. No. ~~24~~ 25. December 15, 1913 $2.00 Yearly

EDITORIAL.

WILLIAM HUDSON WATHEN.

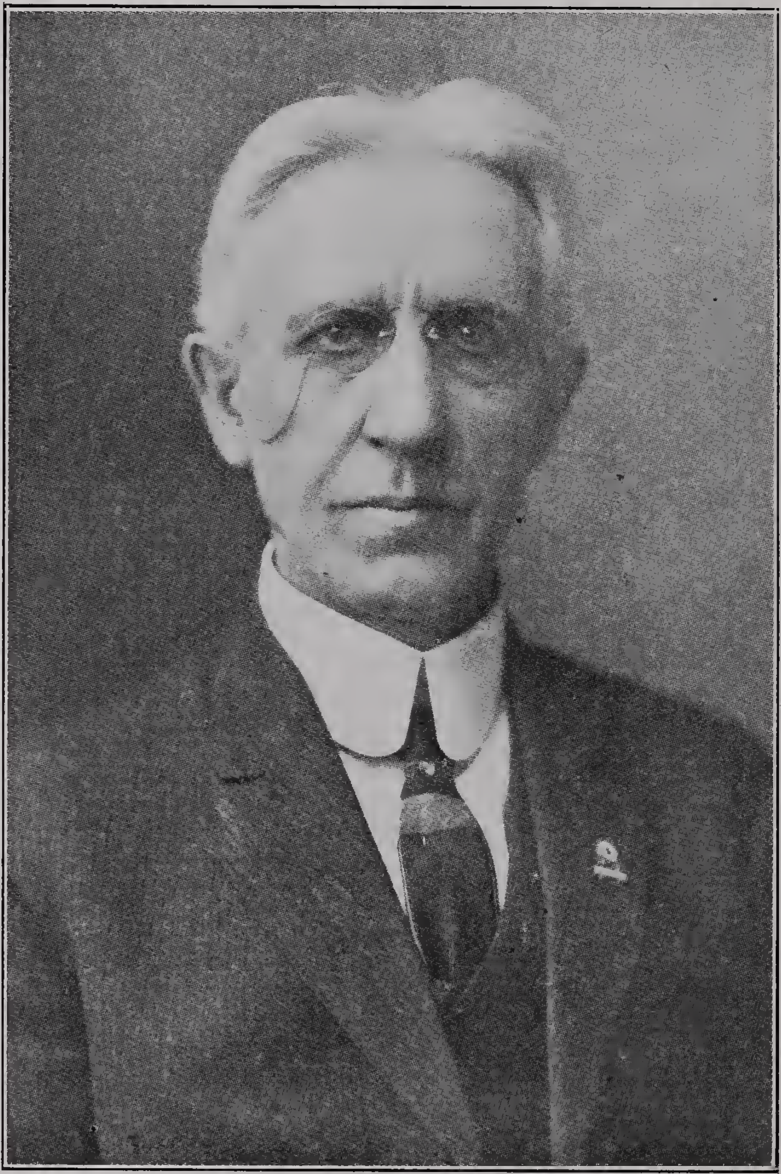
1846 1913.

William Hudson Wathen was born near Lebanon, Kentucky, on January twenty-third, 1846. He received his preliminary education in St. Mary's College and his medical course at the University of Louisville, graduating in 1870. He began the practice of medicine in Louisville the following year, and from that time devoted himself to his profession with remarkable enthusiasm and energy until two days preceding his death, which occurred at St. Anthony's Hospital on October seventh, 1913. In 1895 he received the honorary degree of LL. D., from Notre Dame University. Early in his professional career he identified himself with one of the local medical schools as an instructor, and was attracted to gynecology as a special field of labor. Soon afterward he became professor of obstetrics and gynecology in the Kentucky School of Medicine; at the same time he devoted himself assiduously to the practice of his chosen specialty both in hospital and private work.

Dr. Wathen possessed indomitable energy, a keen intellect, unconquerable persistance and pursued his work with his whole soul. While not physically robust he possessed wonderful endurance, was abstemious in his habits, temperate, and devoted his whole life and energies to his profession. He exhibited his greatest activity as an educator, and was widely known to the medical profession of the southwest as Dean of the Kentucky School of Medicine, a position which he filled with tact, ability and remarkable success until that institution was merged into the University of Louisville in 1909. During these years he filled the Chair of Obstetrics and Gynecology in the school, gave his personal attention to the management of all its departments, and with signal ability administered its financial affairs. While rendering these services, he was all the time a conspicuous figure in the national medical societies. especially the American Medical Association and the American Gynecological Society; pursued assiduously his studies in medical literature, contributing numerous papers to medical societies and journals, and doing an extensive practice. Professional occupations engrossed his time absolutely; he indulged himself in no vacation or other recreation than that which came to him from his professional labors. He knew no periods of leisure, but gave absolutely his entire energies, time and thought to his profession. Work seemed to be his recreation, and he was never so happy as when engrossed with his professional duties.

Dr. Wathen was a fellow of the American Gynecological Society; a member of the American Medical Association; a member of the Kentucky State Medical Association, and one of the most regular attendants, and active participants in the work of the Jefferson County Medical Society. He received many and distinguished honors from his profession. In 1888 he was elected president of the Kentucky State Medical Association; in 1889 he was Chairman of the Section on Obstetrics and Gynecology of the American Medical Association, and was elected by the House of Delegates of the American Medical

Association orator of surgery in 1907. He esteemed this latter the greatest professional honor of his career, and devoted himself laboriously for several months to the preparation of the oration which he delivered in 1908. He was a man of remarkable versatility. He was thoroughly in touch with all the varied movements throughout the United States looking to the reconstruction of medical education. After the enactment of the medical law in Kentucky, Dr. Wathen served as medical referee for Jefferson County, and to his alertness and persistent labors is, in great part, due the fact that Kentucky occupies the unique position of being the first state to rid itself of advertising quacks and charlatans. While giving so much of his time to this work, in which he served the regular medical profession most efficiently and for which he received no remuneration, he kept thoroughly in touch with every improvement in the renaissance of surgery during the past twenty years. When pelvic surgery was extended in its scope to include the entire abdomen, Dr.



DR. WILLIAM HUDSON WATHEN

Wathen kept pace with every advance. One of the most remarkable features of his professional career was the alacrity with which he grasped and carried out the developments of modern abdominal surgery when past middle life. He was eminently progressive and kept in the advance lines of professional progress to the end of his career.

It would be impossible for a man of Dr. Wathen's prodigious energy and activity to occupy a public professional position, especially as the executive head of a large medical school, without incurring enmity and being frequently the object of prejudice and opposition. In all such conflicts he was loyal to his friends and an honest but persistent fighter. But to his credit it can be said that after the conflict he never harbored enmity toward any one, and was quick to forgive and to resume cordial relations with those whom he had opposed. He was honest in all his dealings and loyal always to his friends.

The staff of St. Anthony's Hospital, of which Dr. Wathen was the senior member, has lost probably its most effectual individual worker. He was devoted to this institution and the sisters in charge of the hospital relied upon his advice and aid in the professional conduct of the hospital. In his relations with his assistants and with nurses he was eminently considerate and kind, and won from them the highest esteem and kindly regard. He had many friends in the medical profession, and was highly esteemed by his colleagues all over the United States.

His funeral took place from the chapel of St. Anthony's Hospital, six of his nephews acting as active pallbearers. The body was interred in beautiful Cave Hill, and was followed to its last resting place by a large number of sorrowing friends and professional associates. The staff of St. Anthony's Hospital adopted resolutions setting forth their appreciation of his indomitable energy, ability, and uniform courtesy, and attesting his faithful services and unswerving devotion to his patients and the hospital. The Jefferson County Medical Society adopted resolutions of the highest esteem and appreciation and his friends throughout the United States by letter and by wire communicated to his family their sympathy and appreciation of his distinguished professional career.

Dr. Wathen is survived by a widow, and five children, one being Dr. John R. Wathen, who has for several years been his professional associate. The medical profession of Louisville and Kentucky have sustained a severe loss in the death here recorded, and William H. Wathen's memory will be cherished by his many former pupils and associates while this generation lives. His services to his profession were eminent and far-reaching, and his influence will live through the years to come.

L. S. McMurtry.

IN MEMORIAM

Sanders, Ky., Oct., 8, 1913.

Whereas, It has pleased a wise and beneficent Providence to remove from our midst, our fellow member and friend, Dr. William H. Wathen, therefore be it

Resolved, That the Eagle Valley Medical Society, hereby expresses its sincere regret at his death, and tenders its sympathy and respect to his family in their bereavement and that the Secretary of the Society be and is hereby directed to spread these resolutions on the minutes of the society and that a copy be sent to his family, and to the Journal of the Kentucky State Medical Association.

CURRAN POPE,
B. L. HOLMES,
J. M. STALLARD,
J. W. BOTTS, Secretary,
Committee.

At a called meeting of the Staff of St. Anthony's Hospital, of Louisville, Ky., held at Barrett Ave., and St. Anthony's Place on October 9th, 1913, the following resolutions were unanimously adopted:

Whereas, Time in its unswerving course has removed from our midst Dr. William H. Wathen, an associate, who was the senior member of the Hospital Staff, knowledge of whom engendered not only respect for his honesty of purpose and indomitable courage of conviction but personal affection because of his uniform kindly courtesy.

Whereas, In his death this Hospital loses a warm friend. He had contributed his share to its past achievements, and was proud of its present status, and confident of its future.

Whereas, His faithful services abundantly show his unswerving attention to duty, and these services eagerly sought by those suffering, made him endeared to every professional and lay member of this hospital and his counsel was often asked and as eagerly accepted as it was cheerfully given.

Whereas, In his life he had acted to his professional brethren who were troubled in their career, with the utmost consideration, with unusual kindness and courtesy, and his services were sought and cheerfully given.

Whereas, His genial companionship, his uncommon charm of manner and courtliness of address, attracted and held the admiration and affection of all with whom he came in contact. Therefore be it

Resolved, That the sympathy and confidence of the members of the staff of St. Anthony's Hospital be and hereby are extended to the bereaved family, and furthermore be it

Resolved, That the Staff express to the kind Sisters in charge of this hospital their deepest sympathy and loyal support in their loss.

Resolved, That a copy of these resolutions be sent to the family and that a copy be spread upon the minutes of this Staff and Hospital and that publication.
a copy be sent to each of the several papers for
(Signed):

M. F. COOMES,
J. M. MORRIS,
GEO. A. HENDON,
EDW. T. BRUCE,
HENRY L. RAPP,
A. D. WILLMOTH,
JNO. H. BUSCHMEYER,
EMIL T. GRASSER,
EMMETT F. HORINE,
GAYLORD C. HALL,
B. J. LAMMERS,
WM. A. JENKINS,
G. L. DYER,
W. J. HUME,

Resolutions on Death of Dr. W. H. Wathen.

Whereas, in the providence of God, Dr. W. H. Wathen was translated on October 7th, 1913. Be it resolved:

First, That the American College of Surgery has lost a distinguished and skilled workman.

Second, That Kentucky has lost the most zealous advocate of high and noble ideals in medicine and surgery.

Third, That the medical brotherhood recognizes a rich legacy in Dr. Wathen's life work.

Fourth, That the medical profession of Oldham County feels a keen personal loss in Dr. Wathen's death.

Fifth, That our society extend to the bereaved family our sincere sympathy, and express our high esteem for him as a man, a teacher and a member of the profession.

Done by order of the Oldham County Medical Society in regular session October 9th, 1913, at LaGrange, Ky.

E. D. BURNETT, Secretary.

Whooping-cough.—Treatment.—Pertussis bacterin used in 40 cases. Disease not shortened, but bacterin causes, after preliminary slight aggravation, well-marked, and sometimes remarkable, symptomatic improvement in a certain proportion of cases. Best results produced at the height of the disease. Give 2 or 3 full doses—20 to 50 million bacteria each—at five-day intervals. In young infants moderate doses should be given early; they diminish severity of disease and minimize complications.—Zahorsky.

ORIGINAL ARTICLES

OCULAR SYMPTOMS IN HYSTERIA AND NEURASTHENIA.

By S. G. Dabney, Louisville.

The ocular symptoms in *hysteria* may be divided into the following groups:

1st. Loss of diminution of sight, unilateral or bilateral.

2nd. Interference with the field of vision.

3rd. Asthenopia.

4th. Disturbance of muscles, intra or extra-ocular or palpebral.

Complete bilateral loss of sight (amaurosis) is rare. Its onset may be gradual or sudden. It is more common in women and generally between the ages of 10 and 26; both eyes are generally attacked simultaneously; usually it follows on other hysterical symptoms; often the patient complains of sensations of light; the pupil nearly always contracts to light, but in rare cases it is immobile; various other symptoms may be present, such as lagophthalmos, ptosis, strabismus and anaesthesia of the conjunctiva—this latter especially in conjunction with anesthesia of the skin is an important aid in diagnosis. It is said that the patient avoids furniture and other obstacles in walking, suggesting that sight is present. I have seen only one case of complete bilateral loss of sight from hysteria. This was a single lady of about thirty; there was no history of previous illness nor of previous hysterical symptoms; that attack had come on suddenly just after returning from a hasty trip to a city about 100 miles away in which, however, there had been nothing to cause emotional disturbance. The blindness appeared complete and the patient would stumble over furniture in the room. The pupils were sluggish but would react to light. There was no disturbance of the ocular muscles and the ophthalmoscopic appearance was normal. I could detect no areas of anaesthesia. Dr. Moren (whose office was then two or three doors from me) also saw this patient and concurred in the diagnosis. Vision returned gradually after five or six days. The treatment was hypodermics of strychnia, some simple wash as a placebo to the eyes and of most importance, the absolute assurrance that her sight would be perfect in a few days.

Partial loss of sight is much more common. In the cases I have seen the vision of one eye was perfect.

The diagnosis must be made by exclusion, by the history of the case and when present, by other hysterical symptoms such as areas of anaesthesia, muscular spasms or paralysis.

The field of vision is the most characteristic ocular symptom in hysteria. It is usually concentrically contracted—the so-called tubular vision—and the field for colors is reversed, the field for red equalling or exceeding that for blue. It is stated that the visual field in hysteria is unchanging until the nervous condition is relieved, while in neurasthenia the field, normal in the beginning of the examination, quickly becomes contracted, but without color reversal. It is to be remembered that hysteria and neurasthenia often co-exist.

The asthenopic symptoms are not peculiar to hysteria, except that the patient often complains unduly of muscae volitantes and exaggerates the discomfort in the use of the eyes. It must be kept steadily in mind that even a typical hysteric may have errors of refraction or muscle imbalance whose correction will greatly help the asthenopia and by removing one cause of nerve strain may even help the hysteria.

Pupillary symptoms are rare.

Spasm of the orbicularis, simulating ptosis, and spasm of the ciliary muscle are the most common muscular disturbances—the latter in nervous young women sometimes produces a high degree of apparent myopia. The treatment of this is to put the ciliary muscle at rest with atropine.

The name *neurasthenia* doubtless covers many an error in diagnosis—both medical and surgical and even when correctly chosen the name does not indicate whether the condition is primary, which is rare, or secondary, which is common. In the use of the words primary and secondary the nomenclature of Burr, who writes the article on this subject in Osler's Modern Medicine, is followed. It is evident that a diagnosis of this condition and of its cause is only to be made after careful and sometimes repeated examinations by the neurologist, the internist or the surgeon. Only very rarely do I reach the diagnosis of neurasthenia, without the aid of the family physician or a consultant.

The ocular symptoms are indeed never pathognomonic and rarely exist alone—nearly always they are a part of a general group whose chief characteristic is too quickly induced fatigue.

It is of vital importance to remember that eye-strain may be an important factor in causing neurasthenic symptoms and sometimes indeed even in remote organs—and yet I think the whole symptom complex will rarely be so produced, and therefore ocular treatment, though often of the greatest benefit is rarely alone sufficient. DeSchweinitz in Posep and Spiller's work on the Eye and Nervous System, divides neurasthenic ocular symptoms into five groups:

1st. Defective and painful visual sensation or neurasthenic—more properly nervous—asthenopia.

2nd. Anomalies of the iris movements.

3rd. Anomalies of eye-lid and eye muscle movements.

4th. Anomalies of the visual field.

Of these the pupil phenomena are certainly very rare if they ever exist; disturbances in the movements of the eyelids are also very rare, unless we include here a heavy feeling and some difficulty in raising the lids, with a sensation as if they were stuck to the ball in the morning; disturbances in the movements of the external ocular muscles are common, sometimes as a cause, sometimes as a consequence of the neurasthenia.

Of these muscular anomalies the most important, though not the most frequent, is disturbance in the vertical movements—known as hyperphoria. This is never a result but may be a considerable etiological factor in neurasthenia. Fortunately it is the one muscular anomaly which is most satisfactorily corrected by the wearing of prisms. From its constancy at different times and under different conditions it appears that this muscle anomaly is due to structural defects.

Much more frequent and often as the result of the neurasthenic is disturbance in the internal or external recti. These insufficiencies require first of all careful correction of all refractive errors. The habitual use of prisms for abduction of adduction is rarely indicated. In my own experience the use of prisms for muscular exercises has not been very satisfactory, though I still have occasional recourse to them. I believe proper correction of refraction, use of the eyes only under sensible conditions and building up the general health will in most cases be our best agents for overcoming disturbances of the horizontal muscles.

The characteristic field of vision in neurasthenia is one which while normal at first rapidly undergoes contraction—usually concentric contraction—another evidence of too easily induced fatigue. This is probably the most useful in diagnosis of all ocular symptoms, but it is frequently absent.

Among the unclassified symptoms may be mentioned heavy aching pain in the eyes, quite independent of their use in close work and generally worse in the morning. Undue sensitiveness to light, sometimes in extreme degree, is also common. Of course these symptoms like the others must not be attributed to general neurasthenia until a painstaking correction of refractive and muscular anomalies has been made and the proper treatment for them faithfully tried. As a rule they will be at least decidedly improved by such treatment.

The usual neurasthenic ocular symptoms, however, are found in DeSchweinitz's first group—neurasthenic or nervous asthenopia. In most cases these symptoms are due in a measure at least to some error of refraction or muscle imbalance, accentuated and it may be perverted by the general nervous condition. It is a common experience in testing the refraction to have the patient say "now everything fades out and my eyes hurt"—and to make frequent contradictory answers as to the glass. even when completely under a cycloplegic. On questioning such patients, it is often found that they suffer from general fatigue, wake unrefreshed, have nervous tingling or numb sensations, irritability of temper controlled with difficulty or sometimes not controlled at all, and headaches which are in all probability not entirely due to eye-strain. Of course the first advice to such patients is to consult their physician and find what causes are at work to produce these symptoms. Unfortunately too many of them have already consulted many physicians, surgeons, gynecologists, proctologists and oculists; have used many eye-drops and have tried many eye-glasses; have run the gamut of osteopathy Christian science, and new thought; and often have spent weeks in infirmaries and with various operations from adenectomy to hysterectomy. What shall the mere oculist, who is given just one more trial, say when such a tale is unfolded. Perhaps he may suggest that the personality of the physician may be as potent as his drugs; that from the patient honest confessions are not only good for the soul but for the body also—and still more may help to "cure the mind diseases and to pluck from the heart some deep-rooted sorrow;" perhaps he may admonish him, or more often her, that this condition has been the result of long existing and accumulating causes and that its cure will be slow and attended with many disappointments and perhaps he will make some suggestion as to rest and recreation with kindly words of encouragement; but surely he will explain that the eyes are only a part of the case and that she should place her confidence in her general physician who would be to her not only a doctor but a guide, philosopher and friend teaching her when to work and when to rest, what to hope for from therapeutics and what must be accomplished by her own efforts and finally, if the occasion demands, directing her to the man or the place which her needs require.

DISCUSSION.

Adolph O. Pfingst: I feel that we should all be benefitted by the very practical paper that Dr. Dabney has presented.

Like Dr. Dabney I see a great many cases that come to me complaining of all manner of symptoms. I understand that, to the modern neurologist, the term "neurasthenia" means a serious condition that may terminate fatally and that it is rather uncommon. I do not recall having seen a case of this kind. However, I have seen many cases presenting neurasthenic symptoms, referable to the eye and head, and in these cases we are often able to benefit the individual by treatment directed to the eyes. I agree with Dr. Dabney that the neurasthenic symptoms are secondary to the ocular condition rather than vice versa. Slight errors of refraction are more frequently the cause of these symptoms than are more pronounced errors. For instance, a slight degree of astigmatism, with the axis against the rule, is more apt to give rise to these symptoms of neurasthenia than is a larger error with the rule.

As to hysteria, I have been very fortunate in having seen two very interesting cases of that type, in which there was ocular disturbance, both being of the sensory variety. I have also seen cases of motor disturbance, such as muscular contractures, and ptosis due to hysteria. Passing over this phase of the subject, I would like to mention a case very much like the first one reported by Dr. Dabney, a case of bilateral amaurosis. I saw this patient ten years ago, and at that time I looked up the literature pretty thoroughly. In all the French, English and German literature that I could gather, I found only 31 such cases reported up to that time. As Dr. Dabney has said, we frequently see these cases with one eye blind, but in this case both eyes were blind. This patient was led into my office by her husband, with the history that the blindness had come on soon after a fall. However, the history prior to that time showed that she had been subject to neurotic or hysterical symptoms, such as severe pain in the back, tender spots up and down the back, hyperesthetic areas of the skin, etc. There were one or two very interesting features in this case. When I examined her she was apparently unable to see even a hand held before her face. Examination of the fundi showed them to be practically normal. While she had a rather narrow pupil, it was responsive to light to some extent. As no pathological condition could be found to account for the trouble, a diagnosis of hysteria was made. I had Dr. Ray see this case a week later and he confirmed the diagnosis. The condition continued for twenty-one days, at the end of which time the patient again stumbled, and within a few hours her sight was fully restored.

Another peculiar feature of the case was the way the trouble came on. There was a gradual restriction of the visual field until finally sight was gone entirely. As she described it, dark balls appeared before her eyes, but she could see light which became fainter and fainter until she could not see at all.

As stated, I could find only 31 cases recorded in the literature up to that time. Of these, more than two-thirds were in females; only six being in males. The ages ranged from nine to thirty-nine years. My patient was 45 years of age. In most cases the trouble comes on suddenly and disappears the same way. The diagnosis is usually made by the absence of other conditions which might account for the trouble, the suddenness of the onset and disappearance, and the response of the pupil to light. I remember that while examining this woman in my office, I happened to place some object on the mantel, and later she made some suggestion concerning the object I had placd on the mantel, although she was apparently unable to see anything.

I saw another case, about the same time, in which there was sensory disturbance resembling hemiplegia. This individual had also manifested nervous symptoms, a tenderness over the spine and other areas. Examination of the visual fields showed a marked constriction on the nasal side of the right eye and the temporal side of the left one resembling the field in haemianopsia. However the field was not cut off abruptly in the median line as it is in a genuine haemianopsia. I looked this up subsequently, and found that there is never a complete haemanopsia of hysterical origin. This woman had some uterine disturbance, for which she was operated upon. She had no further attacks after that. I might add that the first case mentioned had a subsequent attack. Then she left the city and I have not heard of the case since then.

Leon L. Solomon: I have very much enjoyed listening to this very excellent paper. The doctor's reference to the various departments of the body that are disturbed, or seemingly disturbed, brings to my mind a case that presented at the University of Louisville during the fall and winter of 1892-3. This patient had certain symptoms which took her, on her first visit, to Dr. Turner Anderson's clinic. For the relief of these symptoms a col-perineorrhaphy was performed. She afterward came to Dr. Ray's department because of a squint, for which she was operated upon, and finally she came to Dr. David Yandell's department because of a fracture of the index finger. The students, having seen her in so many departments, began to wonder where she would appear next, and one of them passed down to Dr. Yandell the question, "What is the proper treatment for neurasthenia." He very promptly handed out the answer, "Neuras—I don't know; —thenia, a dam thing about it."

I did not get the idea from Dr. Dabney's paper that Dr. Pfingst seems to have obtained; namely that a patient with ocular disease or ocular symptoms, was a neurasthenic because of these symptoms. I received the impression, rather, that these symptoms were but a part and parcel of the so-called neurasthenic state of the patient. It has been my observation, as an internist, that so-called neurasthenics often present ocular conditions. At the present time I have under observation, at Dr. Board's sanitorium, a woman who, at intervals, complains of total blindness, though it is my impression that she feigns it. Indeed, my conception of neurasthenia is a general asthenia, referable more particularly to the nervous system and, especially if it is lasting, meaning more than a simple functional disturbance. Dr. Pfingst may recall a patient that came under his observation several years ago for a ptosis that recurred at intervals. This woman was a so-called neurasthenic or neurotic individual. She was married but had no children; in fact, had never experienced the pregnant state. This woman presented herself every now and then because of a recurring ptosis; and if there is any one sign that indicates a border-line case—not a functional neurasthenic state with hysterical symptoms, but a state that, if not organic, is apt to be—it is this. This woman, as Dr. Pfingst will recall, afterwards became a general paretic, and died with the insanity of general paresis.

All neurasthenics are hysterical, although the reverse is not true, and patients who present ptosis, if fixed and lasting, always impress us as being hysterical or neurasthenic individuals. However, to me it is a warning of some organic condition which, if not actually present, will sooner or later manifest itself.

Jos. J. Shafer: Ocular symptoms of neurasthenia are varied and manifold. These patients are apt to complain of a sense of confusion in crowded thoroughfares, inability to ride in street-cars, or on railroad trains and observe passing scenery without fatigue and severe headache. They also show an inability to concentrate their thoughts on any subject for any length of time. One of the cardinal symptoms is occipital pain reaching as far as the scapula, and giddiness on arising in the morning. Finally this symptom complex becomes so aggravated and varied in character that the patient becomes one of the profound neurasthenic type, which compels the sufferer to seek rest in order to re-establish his nervous equilibrium. When he or she returns to his or her labors in this condition, the same story repeats itself.

The solution and relief of these cases are found in distressing errors of refraction, muscular unbalance, and the state of muscular equilibrium; also if the muscular condition is anatomical or pathological. All of these conditions must be treated, seriatim, and the treatment directed accordingly.

When Dr. Dabney appended to his subject "Symptoms of Ocular Hysteria," I thought surely he had picked up a heavyweight, but he has handled the subject in such a practical manner that it is indeed commendable. Volumes and volumes have been written on the subject, but the topic seems almost inexhaustible. It takes in the ophthalmologist, the neurologist, the surgeon, and, last but not least, the hypnotist. We, as ophthalmologists, in these cases deal mostly with defective convergence and accommodation. Of those cases with hyperesthesia of the retina, that cannot tolerate any luminous bodies without creating intense blepharospasm, I have seen but few; likewise, contracted field of vision. These conditions seem to be of central origin, where we cannot give relief by local mechanical or medicinal measures. Then the ocular disturbance becomes a hailing sign of a remote cause, and the relief must be addressed to the cause.

J. Rowan Morrison: I have enjoyed Dr. Dabney's paper and the ensuing discussion very much indeed. I am glad to hear that, in the opinion of the specialist, these symptoms are not as frequently manifested as the general practitioner has been prone to believe. It would seem that many of us are lazy, and ascribe to hysteria and neurasthenia many conditions for which a true cause could be found if traced to their origin.

W. A. Jenkins: From the standpoint of the internist, I should say that, if we are to regard hysteria and neurasthenia as clinical entities, strictly speaking, we see ocular conditions more frequently accompanying hysterical states than neurasthenoid or neurasthenic states. It is very common for the internist to find limitation of the visual field in cases of hysteria. It is also very common to see so-called coma in hysteria. A tendency of the eye-ball to turn upward is a very frequent symptom and rather diagnostic of the so-called coma of hysteria, especially taken in connection with negative findings otherwise. It is a fairly common thing to make an examination of an hysterical individual in an apparently comatose state and find the eye-balls turned upward, and it is also rather common to find limitation of the visual field in this type of cases.

S. G. Dabney, (Closing): I think the difference in opinion between Dr. Pfingst and Dr. Solomon is more apparent than real; that is, as to whether neurasthenia is induced by ocular disturbance, and whether the condition can be cured by the relief of this disturbance. I do not believe the patient would be relieved by prescribing glasses, nor by correcting errors of muscle balance, although the symptoms would probably be ameliorated in proportion to the relief of nerve strain. While neurasthenic symptoms may in some degree be improved by the correction of eye-strain, I do not believe they will be cured by that alone. One reason why we see so many of these patients going from one oculist to another is that we fail to impress upon them the limitations of our art; that while we may help them, we cannot promise to cure them, and they must not expect too much from glasses. I know of many typical neurasthenics in whom all sorts of measures—the cutting of muscles, wearing of prisms and glasses—failed to give relief. These individuals failed to grasp the significance of the fact that while our treatment may help them, it rarely cures them. The patient who has an optical defect of high degree, who sees, perhaps, only one-fifth as well as he should, lets it go at that; he does not tax his nervous system by the strain of attempting to do things that require perfect vision. On the other hand, the patient who has a slight defect, attempts to exercise perfect vision at the expense of the nervous system. Therefore, I believe we will all agree that slight defects produce greater strain than larger ones.

I did not touch upon the subject of the rareity of complete hysterical amaurosis. I heard Dr. Pfingst say that he had seen one and I knew that I had seen one. I will say, however, that upon looking up the subject, I could find but about thirty cases reported up to date. Dr. Pfingst's case is a little bit suggestive of malingering. I would have strong suspicion that any one who knew that a certain object had been placed on the mantelpiece during an examination, had eyesight.

I have never seen hysterical haemianopsia. I think it is rather rare and one would expect it to be brief. I saw a case of bitemporal haemianopsia two or three years ago, before the subject of the pituitary body had gained so much prominence, I thought at first it was hysterical, but when it had lasted for a week or so I came to the conclusion that it was caused by pressure on the chiasm and this proved to be true. A case of pituitary disease.

I agree with Dr. Solomon in regard to ptosis. In those cases of apparent muscular paralysis we should take great pains to ascertain whether it is hysterical or due to some organic trouble. We should be particularly careful where the ptosis persists or recurs. It is said that in hysterical ptosis an attempt to raise the lid will meet with resistance on the part of the patient and cause a spasm, whereas in genuine paralytic ptosis the lid is perfectly flaccid and can be raised without difficulty.

Pleurisy.—Treatment.—Autoserotherapy advised in all cases of pleural effusion where fluid not purulent. Upon exploratory puncture, do not withdraw needly entirely, but inject 2 to 5 c.c. of the fluid when its point is in subcutaneous tissue. In favorable cases, general amelioration in two or three days; in about 80 per cent. of cases fluid will disappear in a week or ten days. In some patients treatment may have to be repeated several times every two or thre days before benefit appears.—Fishberg.

CLINICAL CASES

EPILEPSY: EXHIBITION OF A CASE PROBABLY TRAUMATIC WITH REPORT OF THE OPERATION FOR RELIEF.

By Louis Frank, Louisville.

A few words as to epilepsy, its varieties, pathology and the later opinions and practices for its relief, will, I take it, not be amiss before reporting the case, which I present for examination and describing the procedure carried out for relief.

We recognize two varieties of this disease, (1st.) the so-called idiopathic, essential or genuine, and (2nd.) the secondary, Jacksonian or traumatic. In the first variety there is by many believed to be no external cause and it is thought that the disease begins in the ganglionic cells, the convulsions being symptomatic of these cerebral cell changes. Later opinion and research and the results ensuing after brain operations for these conditions have brought about in some a change in regard to these conceptions and at present, probably more among surgeons than neurologists, the cell changes or ganglionic cell degeneration is interpreted as an effect rather than a cause of the disease. Kocher for some years, as has Fredericks, attributed to a rise of intra-cranial blood pressure the sequential spasms and look upon the cell changes as an end result. Surgery has tended more and more to assign as a cause in all cases either a traumatic origin or diseases of early childhood which latter may have produced, as a result of bacterial or toxic stimulation, changes in the cortex of the cerebrum of such character as to stimulate periodic discharge of energy from these cells. As opposed to this is the difference, in many respects, of the character of the attacks in this so-called essential type of the disease and that which we recognize as truly Jacksonian. In the latter there is usually a definite aura, in the former a sharp cry preceding the convulsion. In essential or general epilepsy the contractions are first tonic, later becoming clonic. The entire body is involved in general or essential epilepsy whereas in traumatic or Jacksonian frequently only a portion of the body participates. This has led, neurologists in particular, to denominate all not truly essential cases as epileptoid, in fact any cases in which a possible causative factor can be demonstrated, as trauma, encephalitis, etc., are not recognized by them as true epilepsy. Since operative surgery has discovered lesions in so many of these cases and since the pathologist has shown that there are always changes in the giant pyramidal cells of Betz (found only in the precentral convolution) even in those cases in which a deeper growth or gross lesion may have been the primary causative factor, we are coming more and more of the belief that even these so-called idiopathic cases are dependent upon traumatic or other recognizable though possibly undiscovered causes.

On the whole, however, neither the Kocher valve operation nor the excision operation first suggested by Horsley offers any large percentage of cures. But if the very fewest number of cases show relief and some only improvement, slight though it may at times be, are we not justified in giving to these patients the possible opportunity of benefit? And if this is done is it not reasonable at least to hope that if we have the opportunity of studying these brains early and during life on the operating table that there may here, as has been true in abdominal surgery, be revealed a pathology which is not terminal and thus a way be opened up to give, not only hope, but enough promise to individuals who heretofore have been utterly and hopelessly condemned as beyond help, who end their days most miserably, whose lives are a distress and a reproach, so much so that not infrequently suicide terminates the existence of the unfortunate, who but for this affliction, may have been a useful member of society.

In the second variety of epilepsy, the Jacksonian type, while we cannot promise relief from operation in any individual case, the outlook for betterment, if not a cure, is so much better than in the essential variety that we are justified in advising our patients to submit to operation.

This type of epilepsy can usually be recognized by the aura which always precedes the convulsions and by the regular manner and progression in order or sequence of muscle group involvement. It must not be confused with the status *hemiepilepticus* that may come later in true or idiopathic epilepsy. The seizure begins always in one and the same muscle group, say of the arm, progressing to the other centers on the one side then crossing over and involving those of the other side in regular sequence and order.

If we exclude those cases said to result from reflex causes, such as an adherent prepuce, eye strain, etc., we find that in all others there are definite changes in the brain. At times these may exist only microscopically in the giant cells of Betz or there may be only the changes due to a toxicity as from alcohol, lead poisoning, etc. The history may take us back to the time of birth, the trauma having resulted from delivery forceps, eventuating in a fracture, in intracranial bleeding, etc. Or there may have been a later injury, a blow from a stone or a fall. Or at operation adhesions may exist between the dura and an old fracture line, an exostosis may be present, there may be scar tissue in the dura or if there had been a subdural hemorrhage, a cyst may be found. Again the individual may show a history of encephalitis or of cerebral symptoms following some of the infectious diseases. Tumors, hydrocephalus, abscesses may cause epilepsy of the Jacksonian or even at times apparently the essential type as a result of pressure due to a lessened intracranial capacity by their presence in the calvarium. Our cases must therefore be carefully studied as to type and more particularly as to cause. As has been stated above, the Jacksonian variety offers something to the patient and in our opinion here again the earlier the operation is undertaken the greater the possibility of benefit. With the finding of removable tumors, cysts, scars, etc., this is especially true even though their presence may have been unsuspected before operation. It must be borne in mind, however, that the finding of a definite pathology does not by any means always foreshadow a cure, nay, not even always improvement.

Nor would I be understood as expressing the opinion that all or even half of any number of cases can be cured by operation; not even would I be understood as meaning that every case should be operated upon. I would, however, urge a careful study of our cases and giving to those in which operation is not contra-indicated the opportunity which in some instances may be a strong probability of definite benefit and which may, and will in some be that of complete cure. In those cases in which the causative factor is one of those mentioned in the previous paragraph, it would be far better to interfere early. It is evident that delay means here, as in any disease, further involvement with extension of cell degeneration and a much more impaired physical as well as mental state with lessened possibilities from any kind or form of treatment. Our preference in the surgical treatment of Jacksonian epilepsy is the plan suggested by Horsley, and practiced by many, namely, excision of the area epilepticus in the brain cortex. Krause's experience and results have led him to insist that in Jacksonian epilepsy, even though there is no history of trauma and no gross lesion noted in the brain, nevertheless the centre in the pre-central convolution in which the attack begins should be excised.

To us this operation has appealed more than any other. In its performance, however, there are some warnings to be uttered. It will suffice here to mention only a few—the asepsis should be irreproachable, as the dangers following the slightest infection are most disastrous. Haste has no place in brain surgery and too much must not be attempted at one sitting. It is best therefore to do the operation in two stages, merely lifting the bone flap at the first. Even though things are going well it is best to desist here and postpone the opening of the dura and the searching out of the areas and the excision for eight or ten days. Nothing is lost by this and the life of the patient may be gained.

Electrical stimulation: This is best done by unipolar faradization, placing a large pad as one pole over the abdomen or chest. I have two electrodes made for me by Meyer of Chicago, who also furnishes our battery, which should produce only a weak current. For the stimulation only the very weakest current is permissible. It is best tested by the tongue and the electrode should give only the slightest saline taste. After testing, the electrode is changed for one exactly similar in size and shape which has been aseptisized. Again the stimulation must not be too prolonged nor too often repeated, else the centres may be exhausted or the stimulation may produce a status epilepticus resulting in death, possibly on the table.

All these patients should have treatment by bromides or other sedatives continued for a variable time after operation to get the best results. Many or most will require tonics. In few indeed do the attacks cease at once, as the procedure does not act like magic. Usually the attacks subside gradually and postoperative attention becomes therefore necessary. I wish also to sound a word of warning as to what should constitute a cure. Certainly not six months or a year without an attack, and I do not show this boy as a cure. To say that a case is well he must go, in our opinion, at least five years without a seizure. This must not be forgotten for it is not unusual for epileptics to have periods of quiescence or freedom from their fits for a variable time from weeks to months, or even a year or two. With this explanation, that I may not be misunderstood, I present this young man for exhibition and examination to-night.

I have not had occasion to see this patient for some time. On the very first occasion of seeing him, when the patient was presented to another society here, he was an object of commiseration; in fact, he was the most abject looking individual that had been presented for a long time. His countenance had an idiotic expression, and he could hardly answer questions, which condition we believed at that time to be due possibly to enormous doses of iodides and bromides that he had been receiving, and notwithstanding which he had been having a number of attacks daily. He was sent to the infirmary and operated upon after the manner to be described. The history is as follows:

Oct. 19, 1912. Mr. A. S., age 15, residence 528 S. Jackson St., referred by Dr. Frank Simpson. Occupation, packer for Louisville Paper Co., until May, 1912.

Family History: As far as patient knows family history is negative for epilepsy. Father died of heart disease. Mother is living and well but has had frequent severe headaches which are prolonged from one to three days. Patient has two brothers and two sisters (twins) who are well. Patient is the oldest child in the family.

Medical History:. Patient had diphtheria when very small. Mother says was perfectly well up to eleven or twelve years old when he fell out of a swing and struck the head, he says, behind and below the crown. There is a small scar on right side of head 1 1-2 inches behind the line connecting the ears and 2 inches from the longitudinal fissure—a 2 inch scar is on a line with the first but 1 inch in front of the line connecting the ears. He was strong and well up to the time of the fall but had had frequent severe headaches as far back as he can remember—duration of headache being from one to two and a half days. He thinks that he had a convulsion with loss of consciousness for the first time about one week after the fall out of the swing. He had some light attacks in 1910 which were preceded by a feeling of "dizziness" of "swimming in the head." When the severe attacks occurred he had no prodomal symptoms until December, 1911. Since then he says the attacks begin by his seeing "people" or "animals, tigers, elephans, lions, foxes," coming after him to catch him and rut him. Just as he is caught by one of the animals—the lion most frequently—everything becomes a blank. He never knows when the convulsive movements have set in. He has been told the convulsive movements begin in the left arm. After an attack he is drowsy for five or ten minutes—feels weak but after walking around he feels better. He says he has never bitten his tongue and has never given a "cry" at the beginning of an attack and this was never noted while in the hospital. There is no especial weakness in any limb after the attacks—all are weak.

During the first year (his 11th year) he had three or four attacks daily. During his twelfth year about the same. From his 13 1-2 year to present time he has had attacks three or four days per week and two or three attacks on each of those days. Attacks are not so severe as before. He does not feel so exhausted after them. Duration is from one minute to three. His appetite is fair though he has lost since May, 1912, 22 pounds. Bowels are regular and urination all right, i. e., five or six times per day. Pressure at junction of parietal and occipital bones causes pain above both eyes. This pain is very slight.

October 20, 1912.—Slight attack, epileptic, unconsciousness, clonic convulsions of muscles of face of left side. Mouth pulled to left side more than right; attack not seen by nurse. His mother says she has not seen the beginning of a severe attack. In slight attacks the left side seems to draw up and the body is bent over to left side. Duration is so short that she has never noticed particulars. Patient has taken bromide for three years without improvement.

Urinalysis, normal. Blood examination: nothing abnormal.

OPERATIVE REPORT.

Date of operation, October 28th, 1912.

Character of operation, osteoplastic flap, as first stage of excision operation.

Assistant, Dr. Price.

Spectator, Dr. Simpson.

On the right side of the skull over the motor area an osteoplastic flap is made. Six openings bounding a quadrilateral area were drilled with Hudson's instrument. The two at the top of the flap were connected with gigli saw. The base of this flap was fractured. The dura pulsated and seemed to be under increased tension.

Osteoplastic flap is replaced and skin sutured with No. 1 plain and chromic cat gut.

On November 18th, the second operation was done consisting of excision of the motor area of left arm, in which the spasms began.

OPERATION.

Character, excision motor area of arm.

Operator, Dr. Frank.

Assistant, Dr. Price. Visiting, Drs. Simpson and Thompson.

The osteoplastic flap is rapidly turned back and the dura opened by incision along each side of the cranial opening and at the base, turning the dural flap upwards.

Condition found: Edema of archnoid (moderate). The veins are larger than normal and along their course are white bands of fibrous tissue. The capillaries are prominent. Punctures are made in arachnoid and fluid, of which there is considerable, is evacuated. With mild faradic stimulation of precentral convolution the focal areas of shoulder, arms, fingers—extension of hand—leg and foot and part of face centres are located. The motor area of the arm is excised 6 m.m. deep, the dura sutured and the flap replaced. Skin sutured with cat gut and dry dressing applied.

The bleeding from the scalp was most effectually controlled by an encircling buttonhole stitch or lock stitch much after the manner of Heidenhain's haemastatic stitch used for this purpose. The work was done under light chloroform anesthesia. On November 22nd, there was slight paresis of the extensors of the hand and "wrist drop" on the left side. Flexion of fingers was about normal. Flexion of arm was weak.

From this time on the return of function, which had been almost lost in the left arm and hand immediately following the operation, was very rapid.

For several days after the excision of brain substance there was no recurrence of epileptic attacks. A week or ten days later, however, they began again notwithstanding the administration of bromides which was begun five or six days after the operation. During the latter part of January, two months after the described procedure we began the administration of ergot and digitalis in addition. In February he had his last attack, all medicines were discontinued the last of April and he has had up to the present time no further seizures.

I do not report this as a cure, knowing full well that these patients may go six months or a year without attacks, even though under no treatment, and then have a recrudesence. I present this man because I think it is an interesting case and because I believe he will be relieved. The difference in his physical appearance is most marked, his weight having increased from 86 pounds in November, when he went to the hospital to 135 pounds, his present weight. The greatest gain is, however, in his mental condition. When he first came under observation he was a drooling, bromide saturated, unintelligent looking boy who could not even answer questions and was wholly and completely incapacitated, unable to take care of himself; to-day, he is a happy, rosy-cheeked handsome lad with a bright face, quick to reply, intelligent and doing a man's work each day earning his own living and helping care for the family.

I cannot refrain from expressing the belief that this wonderful change has been due to surgery and to express the hope that this young man's improvement will continue and be permanent. If we can show such results in only one in five or even ten of such cases, we have attained more than we could ever hope for by drugs and we are justified in inviting these unfortunates to grasp the opportunity which is offered, if not to all, certainly to some of those who submit to operation. If only a few are cured, and a few improved, who will deny them the beneficence of surgery?

DISCUSSION.

Leon L. Solomon: Surgery is accomplishing such wonderful things nowadays and restoring to usefulness so many otherwise useless individuals, that we wonder what it will accomplish next. However, conclusions, based upon personal experience, are so often misleading, that I am inclined to believe, that we are not altogether justified, as a rule, in drawing conclusions from our own individual experience. Such familiarity as I have with the subject, presented by Dr. Frank this evening is gathered from the literature, and I confess, that until recently, I had observed no great amount of evidence, as to the good, that could be accomplished by operative procedures, in those individuals afflicted with epilepsy. Therefore, I am more than pleased tonight to hear a man as conservative as is the essayist, make the positive statement that he has just made concerning what the future has in store for these patients. As far as the patient before us is concerned, he appears to me to be a rather typical microcephalic; I fancy that his head measurements are exceedingly small. However that may be, the time that has elapsed since the operation by Dr. Frank is too short to justify any conclusions whatever, other than might be drawn from the great improvement in the patient's general health, as well as the apparent improvement in the condition for which the operation was primarily done. The fact that no seizures have occurred since the operation speaks well but does not prove the future.

The first work that I did along this line was under the great master, Mendel, Chief of the Department of Neurology of the University of Berlin; Mendel believed that there was a cure for epilepsy, and cited many cases in his personal experience in which permanent cure had followed the use of bromides. For the most part, however, judging from the literature, the authorities of this country do not concur in his views.

I cannot conceive of any operation being done on these patients without the likelihood of bringing about a condition almost identical with, and possibly worse than the condition that already exists. I refer to the possibility of a similar condition, resulting from the scar tissue, left by the operation. Even though an iridectomy knife be used and the procedure otherwise is as delicate as the use of such an instrument in the hands of a trained surgeon like Dr. Frank would indicate, there is apt to be scar tissue, or other deviation from the normal, which would be followed by epileptic seizures. When we stop to consider that the epileptic patient presents "a something" in his blood which, when introduced into the blood of rabbits and other small animals, will bring about a convulsion, we cannot get away from the idea that some form of toxemia is, for the most part, responsible for these attacks, and to say that, because the attacks were first observed, following an injury, and are therefore traumatic in origin, does not remove the possibility of the "toxic factor," whatever it may be. We are told that it belongs to the ammonium group—possibly the carbonide of ammonia. At any rate it is a fact that the blood of an epileptic contains some kind of an irritating toxin that will bring about a convulsion, when injected into the blood of the lower animals.

I do not like the term "idiopathic epilepsy," and I believe the essayist stated, that it is a misnomer, so far as the title of his paper is concerned. There are many, many conditions which develop unnoticed in early infancy and later childhood. Many of the diseases of early infancy and childhood also the intoxications, that are a part of so-called gastro-intestinal disturbances, are accompanied by convulsions, and later on result in convulsions, which we call epileptic. The fact of the matter is, there is no procedure thus far adopted, under which we can promise a cure of epilepsy, and this statement includes even circumcision, which, in the days of the late lamented J. M. Holloway, was particularly lauded as a curative procedure for the youngster with long and often adherent foreskin who had convulsive attacks of epileptiform or epileptoid character. It will often times result in an apparent cure, but later on there is a return of the epilepsy in many such cases, as abundantly shown in the literature.

Dr. Frank's patient has had splendid internal treatment, following the operation. Digitalis, for reasons, that we do not know, has a very interesting and sometimes a very happy effect in these cases. We are all familiar with what the bromides will do, as well as ergot's role. All of these agents were exhibited by Dr. Frank after the operation was completed. I believe the operation was justified in this case and I sincerely hope that the condition in this boy, as well as many others, who are now beyond the reach of any one, and certainly beyond the reach of the internist, will be reached by the skill and accuracy of the surgeon.

I have very much enjoyed listening to the paper and seeing the patient so vastly improved.

Jno. W. Price, Jr.: It was my pleasure to assist Dr. Frank in the operation on this patient. The case has been just as surprising to me in its final result as to Dr. Frank. As stated by Dr. Frank, when the boy first came under observation he was almost cadaverous-looking. His skin had the yellowish, dusky hue of a carcinomatous patient in the late stages of the disease. He had received the same treatment prior to operation that was carried out afterwards. He was under the care of Dr. Frank C. Simpson both prior to and following the operation, and to him is due the credit for the medical treatment.

The condition of the patient at the present time is really amazing to me. I had not seen him since February, and when I saw him here to-night I thought he was some young doctor with whom I was not acquainted.

We cannot tell what the end results in this case will be. I do not know whether the scar that has formed in the cortex of the brain following the excision, will result in future epileptic attacks or not, but I believe that the histories of other cases that have recovered following operation show that such scars need not necessarily give rise to future attacks. There have been reported many patients where large tumors have been removed and large areas of the cortex injured, who have remained free from attacks. It occurs to me that the removal of the primary spasming areas, as is recommended by many operators, is the true explanation of the subsidence of the attacks. If other attacks develop, I would say they are due to new lesions; in other words, if the patient is not cured by the first operation, I should think it is due to the fact that all of the primary spasming area was not removed. In this case the location of the cortical motor centers was very much easier than similar procedures on the lower animals that I have seen carried out in the laboratory. No time was lost after these areas had been mapped out. A very wide area was excised and it seems, from present indications, that all of the primary spasming area was removed.

Louis Frank, (Closing): Just one word in regard to the point brought out by Dr. Price. The object of the operation is to stop the convulsions by excision of the primary spasming area; in other words, if we can eliminate the explosion in the excitation centre thus preventing the convulsion in the area of their beginning, there is no reason why there should be one at all.

Syphilis.—Treatment.—Following plan advised: Intravenous salvarsan injection, immediately followed by series (12 to 15) of intramuscular mercury salicylate injections, and later by 4 to 6 intramuscular injections of small doses (0.1 to 0.2 Gm.) of salvarsan in sesame oil. After this start new series of mercury salicylate injections, to be continued at increasing intervals during first year of disease. A number of the cases thus treated appeared to be cured.—Eisenstaedt.

Immediate tolerance to neosalvarsan is greater than to salvarsan, but this does not warrant use of relatively larger doses of former. Neosalvarsan to be preferred to salvarsan where latter badly borne and in cases of tabes, paresis, arteriosclerosis, cardiac disease, i.e., in all patients in whom too marked a reaction is to be avoided and where only small doses are indicated.—Bayet.

Salvarsan given intravenously in doses of 0.2 to 0.4 Gm., four to six times at weekly intervals, in 14 pregnant syphilitic women. Each gave birth at term to a living child, generally of normal weight, and none showing stigmata of the disease.—Jeanselme.

A SERIES OF CYSTOSCOPIC DIAGNOSES.

By Geo. H. Day, Louisville.

Cystoscopic technique has made such wonderful strides during the past several years that its place in surgery is clearly defined. Accepting as granted that its uses are understood, suffice to say that the modern operating cystoscope is so constructed that amazing procedures can be now carried out without our patient being subjected to a major operation. The synchronous catheterization of three ureters, the employment of three or more flexible instruments at the same time, fulgeration or excision of tumors of the bladder, excision of pieces of tumors of the bladder for diagnosis, snaring of papillomata for diagnosis and therapy, crushing and removal of calculi, removal of foreign bodies, dilatation of ureters by high frequency currents, exploratory punctures of cysts, and the therapeutic use of endovesical cutting instruments are a few of the procedures we depend upon for this most useful instrument. Rather than devote the space allotted to this paper to modern methods in cystoscopy, I wish rather to report a few interesting cystoscopies illustrating the operating feature as well as the diagnostic.

CASE I.

Miss F., age 24, cystoscopy requested by Dr. J. Hunter Peak. This patient has had symptoms referable to the upper urinary tract for the past three years, treatment consisting mainly of strapping and the use of corsets. One year ago nephropexy of right kidney was done by Dr. Peak. Since then says she was considerably improved. However, she was complaining of some pain, and as the urine contained considerable quantity of pus and at times blood, cystoscopy was requested.

The interesting feature of this case is one that is known as phimosis of the ureteral orifices. There has only been a few cases reported where we have found this condition in a normal bladder. We often have difficulty in finding the orifices in a pathological condition, such as vesical tuberculosis, but with a normal bladder it is a condition comparatively rare. I take it that the pyelitis was due in a large measure to these constrictures so that dilatation of the uretral orifices with lavage of the kidney pelvis, together with the suspension, accomplished the desired result.

CASE II.

E. S., age 23, female, white. Admitted to City Hospital July 28, 1913. Father dead, cause unknown; mother dead, also unknown; one brother dead, diphtheria; two sisters living, in good health. Has had measles, diphtheria, whooping-cough and has had appendix tubes, and ovaries removed. Two weeks before admittance was seized with severe headache, had considerable fever and nose-bleed, with pains shooting throughout the body. On admittance temperature 104, pulse 124, respiration 28, two Widals positive. Urinary examination, reaction acid, specific gravity 1018, indican marked, albumin trace, few pus and epithelial cells. She passed through a normal typhoid of forty-one days. On the forty-fifth day her temperature was normal, remaining so until the forty-sixth, when she was seized with a severe chill, followed by numbers of others several hours apart. She also complained severely of the pain in both loins and in the region of the bladder. Her temperature from the first attack ran an intense course, remaining at 101 for several days. Dr. W. B. Doherty, Jr., of the house staff, suspected pyelitis and sent her to my service for examination.

Cystoscopic examination showed a bladder deeply hyperemic as a result of the infection, —turbid, purulent urine was seen coming from both ureters. Catheters were introduced on both sides and specimens taken for examination. At this time we found a highly acid urine, very cloudy, specific gravity 1015, indican negative, albumin very abundent, sugar negative, phosphates trace, few blood cells, pus cells very abundant. The following day lavage of the pelvis of both kidneys was instituted, both thoroughly irrigated with a 10 per cent. solution of argyrol. There was no reaction at this time and no pain. Two days later there was an entire cessation of all symptoms, temperature dropped to normal and has since continued to be so. At this time she was thoroughly anemic and prostrated from the long siege of typhoid. However, she began eating a few days later and the convalescence is progressing in a normal way. Urinary examination Oct. 13, disclosed an acid urine, specific gravity 1010, indican present, albumin negative, sugar negative, bile negative, phosphates present, also a few epithelial cells.

There are a number of interesting features disclosed in this case. It is not at all uncommon to find a typhoid apparently passing through a normal seige, the temperature returned to normal, when without any apparent cause, we find chills, fever and pain referred to the abdomen and loins. A great many times these apparent relapses are simply an infectious pyelitis and unless recognized are prone to cause the practitioner hours of unrest of mind. The form of infection which develops in the kidney in suppurative diseases are divided into two clases, microorganisms, that gain access to the kidney through either the blood stream or through the urinary tract. When infection occurs in the former way, it is known as hematogenous, when through the urinary tract, it is known as urogenous. In the hematogenous type infection develops usually from typhoid fever, smallpox, scarlet fever, measles, dysentery, pneumonia, pyemia and septicemia, while the urogenous or ascending infection usually follows a cystitis. Old men are particularly susceptible to infection as a result of manipulations in the urinary tract. Young men suffering from gonorrhea may also be attacked by extension of the infective process upwards. Acute pyelitis always begins with chills and high fever which may reach 104. Pain is usually present, referred to the region of either kidney. The tongue is dry and thirst is very pronounced. The urine always contains pus bacteria and albumin, according to the degree of nephritic process. In consequence of the similarity in symptoms, urinary examination is of the greatest importance. The only constant and trustworthy characteristic of pyelitic urine is the presence of pus and the positive determination of the source of the pus, as well as knowledge relative to which kidney is affected, is afforded only by cystoscopy and catheterization of both ureters.

The treatment of acute pyelitis consists in rest, application of ice, narcotics for pain, urotropin for disinfection of the urine, a light diet, and the free use of water internally. Autogenous vaccines are of great aid and should be used from the onset. In the chronic form kidney lavage is surely a specific. Silver nitrate, or any of its salts, are well borne. Argyrol and collargol in my hands have proven equally efficacious. It has been my habit to irrigate the kidney pelvis in these cases at regular intervals three to five days, repeated oftener if the reaction is not too severe. Quite often very startling results are obtained. I have seen numbers of these cases clear up completely with one lavage. In this girl's case one treatment was sufficient.

CASE III.

Mrs. S., age 22, residence Frankfort, Ky. Cystoscopy requested by Dr. Geo. Coons. First seen September 8, 1913. Patient gives history of having repeated attacks of renal colic, the first attack three months ago, pain altogether in the right kidney region, radiating along the ureter into the bladder. During these attacks had considerable hematuria, followed by intense prostration, the last attack one week preceding this examination. He confesses several attacks of gonorrhea, for which he was treated by his physician and cured, his personal and family history otherwise being negative.

Cystoscopic examination. A strong, well-nourished young man. Anterior urethra negative, posterior some resistance as a result of the preceding tenesmus. Bladder and left urethral orifice normal. The right we found to be the characteristic golf-hole variety, the opening gapping widely, and no contractures noted when the urine was passed. With a stone low down in the ureter, or when a calculus has recently been passed, we usually find this gaping of the orifice thoroughly pathognomonic. The location of the calculus in this case was first diagnosed by the X-ray, Dr. Keith submitting the plate, the stone being located about four inches from the bladder. It was suggested that owing to the location that we try by local procedure to deliver the stone, which was carried out on succeeding weeks until four treatments were given. I noticed on passing the catheter the first several times that it was hardly possible to get beyond the stone, owing to its size. However, we elected the technique suggested by Bryan of distending the ureter in the vicinity of the stone first with adrenalin solution, followed immediately by a warm solution of olive oil. This technique was followed out on four occasions. The first two, resistance to the catheter was very marked. The latter two, none whatsoever was noticed. Five weeks after the first injection, the skiagraph was resorted to and the ureter was negative for stone. I submit plates for your inspection. He has had no further attack of his colic, and he has been sent home to remain under observation.

Of all the methods suggested in assisting the downward passage of ureteral calculi, the injection of oil seems to be of the greatest value, although at times we meet with failures. However, in well selected cases with calculi low down in the ureter, one of the many procedures is usually successful. It has been my rule that in this particular class of urethral calculi to divulse the orifice and ureters as widely as possible, beginning with a normal catheter, to be followed by larger sizes, until the largest is attained. At times a catheter is left in the ureter for several hours, in others, two or three catheters are simultaneously introduced and allowed to remain several hours, thereby obtaining comcomplete relaxation of the ureter and the orifice. If we are able to get one catheter beyond the calculus, the prognosis is much better. We then inject adrenalin, followed by the oil, distending the immediate neighborhood of the calculus with at least 4 c.c. We next fill the kidney pelvis, in fact, distend it with the fluid. At times 10 or 15 c.c. is deposited. This technique is repeated four or five times, noting carefully position of the calculi on these different occasions, we then resort to the high frequency current with technique suggested by Buerger, which is the introduction of a wire cable covered with silk, a small metal olive is attached to the proximal end. These cables and olives are of different sizes and as a rule the largest size possible is introduced. D'Arsonal current is used, the smallest pole applied to the ureter, the large pole to the abdomen. The current is then turned on and the dilating effect noted. Complete relaxation as a rule takes place immediately and in some cases the calculus is expelled a few days later. This is repeated at regular intervals, increasing the current until the stone is passed. Certainly continued efforts will only attain results. Careful, methodical manipulations usually will be met with success. I believe that with the recently devised operative cystoscopic instruments the greatest success will be attained by use of the high frequency current.

CASE IV.

Mr. E. S. Cystoscopy requested by Dr. Louis Frank. This patient had been under treatment for some three or four weeks before being brought to this city for a supposed gallbladder infection. At time of my examination he has had complete anuria for eight days. Presented a large mass on either side of the abdomen, the right side apparently being the larger. The radiograph of the left side revealed four calculi, while the right was negative. The patient's physical condition was of course, very bad, although considering the time of anuria he was remarkably clear mentally. Considerable pain, all referred to the right side.

Cystoscopic examination, after being prepared for operation by Dr. Frank, disclosed a normal bladder and both orifices relaxed and widely dilated, the left being the most pronounced. Uretral catheter was passed to the kidney pelvis on the left side, meeting no interference. On the right side was only able to introduce catheter about four inches. Smaller catheters, the same resistance encountered. No urine was obtained from either side by catheterization. Operation was undertaken by Dr. Frank and the left side operated upon first. A very large kidney was found, entire perirenal area was very oedematous, a number of calculi removed and drainage instituted. The right side was opened and the right kidney partially decapsulated. The pelvis was also opened. Nothing was found in the right kidney, although all the pain of which the patient had complained had been referred to that side. Within 24 hours after operation he passed between 50 and 60 ounces of urine, drainage tubes being removed at the end of three or four days. On the fifth day he began to complain of pain on the right side, with an elevation of temperature which con tinued until the sixth or seventh, when he passed an enormous amount of pus from the bladder. The right side was still very tender and he was complaining of considerable pain, the kidney region on this side greatly enlarged. He went from bad to worse and died on the fourteenth or fifteenth day after operation. Autopsy showed the right kidney to have been the seat of a diffuse pyelonephritis, with a large abscess involving the upper pole of the kidney.

Unfortunately, in radiographic work of the lower urinary tract many times we find that calculi in the bladder, unmistakable evidences of stone diagnosed by the cystoscope which the skiagraph has entirely failed to show. Bier has recently reported a series of twenty-two cases of calculi in this region where only six were positive by radiograph, the others diagnosed by the cystoscope. The interesting feature of this case is the fact that the patient lived as long as he did with a complete anuria. However, it has been known for some cases to live 14, 20, or even as long as 40 days. I have had one such case with complete anuria to live 19 days. Most of these cases eventually succumb to uremia, the mortality being about 80 per cent. His desperate condition at time of operation made the task practically a hopeless one.

CASE V.

S. L., age 26, colored, single, occupation, machinist. Passed to my service June 1, 1913. Gives the following history: mother died at 30, some fever of years duration; father living, in good health; one brother living, in good health; no sisters or brothers dead. Had diseases common to childhood, had scarlet fever at seven years, its complication had patient in bed six months following it. Gonorrhea five years ago, recovered in two months, since then has had it four different times, no evidence of same present now, two months previous to present illness had last case of gonorrhea, three weeks after beginning of last attack came to the hospital with acute retention of urine, which was relieved by Sitz baths and rest in bed. He then left the hospital with slight discharge from the urinary meatus, five weeks later returned with blood-colored urine without any pain or increase in frequency of urination. This continued with patient coming to our-door department of hospital for a month, with bleeding always present. At the time of my initial examination the patient was in the hospital and under internal treatment of codeine, calcium salts, tr. ferri, salts, ergot extract. However the bleeding was persistently present. In fact, after one week's observation the hemorrhage had increased to such an alarming extent that radical treatment was indicated. The man was so deeply exsanguinated that his condition became really very serious.

Wassermann negative.

Cystoscopic examination disclosed a mild cystitis due to the irritation of the immense quantity of blood, the base of the bladder being filled with an enormous blood-clot. From the right ureter came torrents of blood, not alone with the peristaltic contracture of the orifice, but a constant spurting. So intense was this that it was with difficulty that the fluid medium was kept clear enough by constant and continuous irrigation, to make the examination possible. Catheters were introduced on both sides, the left urine being negative. No other lesions found in the bladder, vesical neck, or posterior urethra. Urinalysis disclosed nothing except a large amount of red blood cells in the urine; blood count, red, 4,000,000; hemoglobin 70 per cent; white cells. 11,000; lymphocytes 20 per cent.; blood pressure 130 m.m. hg. Examination for tubercle bacillus was negative. Phenolsulphonephthalein test was given, showed a normal elimination from the left kidney. The functionating ability of the left kidney having been found normal, the operation was indicated. Several days later nephrectomy was done. The man made a good recovery and no hemorrhage was noticed in the urine after the third day following operation. He left the hospital some six weeks later and his urine has since been free from blood.

Pathological examination of the kidney by Dr. Hays, on which he gives the following report:

Sections of this specimen were made from different parts of the kidney and for the greater portions of the kidney very little change has taken place. Some little change is noted in the glomeruli. These were found very much swollen and congested, the two layers of Bowman's capsule were thickened and free blood cells are found between them. I could find no ruptured blood vessels either in the tufts or between the tubules, in any of the sections except one. In the latter I found besides the changes above noted, a marked thickening of the capsule of the kidney and a considerable hemorrhage beneath the capsule separating it from the convoluted tubules. The tubules of the cortex in this section had undergone degenerative changes to the extent that the tubular structure was entirely lost and no epithelium could be made out. Also the glomeruli were destroyed. There were no inflammatory changes between the tubules in the interstitial tissue, nor is there anywhere round cell infiltration. There are no signs of neoplasm.

CONCLUSIONS.

This case is a typical condition known as essential hematuria, of which a limited number have been reported. Casper has reported two cases in his vast experience as a urologist, and in each instance no cause for hematuria was discovered. The records of the Mayo clinic up to June 1, 1913, show only twenty-six patients operated upon for renal hematuria for which no evident cause could be found. Schede reports six cases in which nephrectomy was done, also without any cause for the bleeding. Israel, possibly our greatest kidney surgeon, has only reported a limited number of these cases,—I mean by that, the typical essential hematuria. Young reports one case cured by adrenalin injection. Hagner has reported three cases cured after passing the uretral catheter without the administration of any drug. Moore has reported one case cured by adrenalin injection. Therefore, the treatment of this condition resolves itself in either the administration of adrenalin or some other suitable drug through the urethral catheter, or to nephrectomy. n this instance, owing to the desperate condition of the patient, it was deemed best to not resort to local or pallative measures, but to attempt to save the man's life. In the cases reported by Young, Hagner, Moore, and others, where local treatment with adrenalin was carried out, it has always been in those cases of the intermittent hematuria, where the bleeding will subside and the urine be practically clear for a week or more. In the intermittant type of essential hematuria it is of course, wise to institute local treatment and attempt to obtain a cure in that manner. However, when we are confronted with an intense hemorrhage, which persists for weeks, where the urine contains such an enormous quantity of blood that the patient's life is at stake, nephrectomy is, of course, the operation of choice. The diagnosis of essential hematuria is quite often confused with that of chronic nephritis, infectious nephritis, pyelitis, neoplasm, tuberculosis and stone. In all of these conditions a diagnosis can usually be made after a thorough clinical examination, with the possible exception of nephritis and neoplasm. In nephritis the symptoms presented are usually typical, with a scanty urine, granular casts, headaches, increased arterial tension, In neoplasm the hemorrhage is present almost to a marked degree like that of essential hematuria. However, it usually only persists for a short time and appears at regular intervals. Some time ago Fenwick reported a case of renal varix, which he explained had been diagnosed formerly in the class of essential hematuria. He believed that this condition of renal varix is comparatively common and that this condition would explain a large proportion of cases of socalled essential hematuria. The diagnosis of renal varix is usually not made until after nephrectomy. Therefore, the condition will rarely be confused with a typical essential hematuria. To reiterate, with a given case of hematuria, with the clinical evidence negative, urine, Wasserman, pyelogram, and visible findings negative, with absolutely no localized pain, as in this case, we are usually dealing with an essential hematuria.

DISCUSSION.

H. J. Farbach: I have personal knowledge of only one case mentioned by the essayist. In this case practically every measure that has ever been recommended was tried in an endeavor to control or at least to check the haematuria, but without success. The bleeding increased from day to day until the man was practically exsanguinated and had lost a great deal of weight. He had the typical appearance of a person with a very rapid malignant growth. The cystoscopic picture left no doubt as to the condition present; the blood would spurt out of the ureteral orifice all the time while the catheter was being introduced. the left side gave normal urine. The phthalein test was also made in this case, and the phthalein appeared in the urine in four or five minutes. During my service (which followed that of Dr. Day) he made an uneventful recovery and was passing normal urine when he left the hospital, having regained practically all of his lost weight.

J. Rowan Morrison: The second case reported by Dr. Day is still in the city hospital. In this case (that of Mrs. E. S.,) wonderful results were obtained from irrigation of the kidneys with argyrol. Personally, I would not favor this procedure in a case of this kind. About two or three days before catheterization was done, this patient was put on 15 grains of urotropin, t.i.d., after which the temperature subsided and there were no further indications of vomiting, and the chart shows that she slept well that night. It appears to me that, in view of the run-down condition of the woman, it would have been better to have thoroughly tried out the sterilizing effect of urotropin before resorting to the more drastic procedure of irrigating the kidneys with argyrol, although, as stated, the results were immediate and excellent. An examination of the urine the other day revealed practically no pus, although the woman at present has a neuritis as the result of the typhoid.

J. Garland Sherrill: This report is so full of meat that it appears we should all be able to get some of it. I have under observation at the present time the wife of a physician out in the State of whom Dr. Keith has made several skiagraphs in an endeavor to locate a stone, and finally located what we took to be three stones in the lower part of the left ureter. Last week, with the assistance of Dr. Brennan, I passed a catheter into the ureter, high up, and injected a considerable quantity of oil above the stone. In my case, the catheter went in readily, without meeting any obstruction, and it is my intention to make further investigation to determine positively whether the shadows shown on the X-ray plate were the shadows of stones. The symptoms presented by this woman would indicate a condition of that kind, she having passed pus and blood cells in the urine. On the next occasion I hope to have the X-ray examination made with the catheter in situ, after which we will again try the use of oil, as there is no doubt that relief can often be obtained by the method suggested by Dr. Day. Therefore, it is my intention to try it out thoroughly in the case just mentioned.

Dr. Day also mentioned what is known as essential renal haematuria, which is an exceedingly rare condition, if we exclude all those cases in which the actual pathology can be determined. In my opinion, in most of the cases in which essential renal haematuria occurs, the hemorrhage is due to minute crystals of oxylate of lime, or other crystalline formations, passing through the kidney structure and out with the urine, not occurring in sufficient quantities to form a stone, or probably having no colloid material upon which to congregate. Some of these cases, however, are undoubtedly due to what is known as renal varix. Dr. Frank will recall a case that I saw in Dr. Robert's practice, in which he operated upon one kidney after which the patient's condition greatly improved. Then she presented evidence of hemorrhage from the other kidney and Dr. Frank later operated upon that one also. In this case the patient was undoubtedly suffering from renal varyx, or varicose veins in the pelvis of the kidney. We can readily understand how any obstruction of the blood vessels in the presence of ptosis of the kidney will tend to produce this condition. Many writers have heretofore believed that cases of ptosis of the kidney showed no blood in the urine, but where there is a twist with resultant obstruction of the venous circulation, it will give rise to hemorrhage from the kidney. One peculiar feature of essential renal haematuria is that many of these cases get well from simple exposure of the kidney; in some it is necessary to split the capsule; others are relieved by the plan of treatment suggested by Dr. Day—that is, lavage of the kidney pelvis with adrenalin solution. This is particularly valuable in cases of renal varix such as I have referred to; the use of adrenalin causes contraction of the vessels and in that way the condition is relieved. In no department of genito-urinary surgery has greater progress been made than in the injection of various substances into the kidneys for various purposes. By the injection of protargol into the pelvis of the kidney we can determine the amount of ptosis present; we can tell whether there is angulation at the junction of the pelvis of the kidney with the ureter, and by using these measures in conjunction with the skiagraph, we can almost certainly detect the presence of stones in the urinary tract. Some will undoubtedly be overlooked, but these will become fewer and fewer in number as we become more skilled in the newer methods of diagnosis. Urates of ammonium are particularly transparent and cast a very dim shadow, and these are more frequently overlooked than are other types of stones. In those of a heavier character, especially in the ureter, the X-rays are of very great service.

C. B. Spalding: I was especially interested in the case of essential haematuria reported by the essayist. Dr. Day very kindly invited me to look this man over with him and to be present at the operation. This man presented a picture the like of which I have never seen before. Originally a big, powerful man, he had lost so much blood that his conjunctiva, the palms of his hands and even the soles of his feet were blanched. Dr. Day's examinations demonstrated beyond the peradventure of a doubt that the hemorrhage was coming entirely from the right ureter. His condition was one of crisis. Nothing that had been done had stopped the hemorrhage and the man was simply bleeding to death. Everything possible had been done without avail, and the only thing left was operation. When Dr. Day performed the operation he allowed me to feel in the cavity. The condition of the kidney was absolutely negative. There was no enlargement at all, and, in fact, the only thing at all noticeable was that the upper pole of the kidney was densely adherent to the fatty capsule. However, it showed no gravid pathology. Even after removing the kidney, the microscope revealed nothing abnormal. But what else was there to do? The man was bleeding to death; it was certain that the blood was coming from the ureter on that side, and the only way to control the hemorrhage was to take the kidney out. I think Dr. Day acted wisely in so doing, and that he is to be congratulated upon the result obtained.

I have looked up the subject pretty thoroughly, and have been able to find only a few such cases reported in the literature.

D. Y. Keith: Referring to Dr. Day's remarks as to the advantage of cystoscopy over the X-rays in locating stones in the genito-urinary tract. Granting that this is true in regard to bladder stones, it appears that Dr. Day included those cases where the stone is in the lower four inches of the ureter. The X-ray is positive in such cases, but in bladder stones the cystoscope has advantages over radiographs on account of the character of bladder stones and the super-imposed position of the pelvic bones.

Leon L. Solomon: I would like to ask Dr. Keith if this picture shows the exact location and position of the ureter. If so, it appears to me that the lesson it teaches, particularly to the surgeons, is that it is a very easy matter to tie off the ureters in our hysterectomies and other operations. We are taught that the ureter is a more or less straight tube, while this picture very plainly shows that it is not, and it occurs to me that this is one of the reasons why the ureter is so frequently tied off.

D. Y. Keith: This picture shows very nearly the normal position of the ureter. In cases where we have obstruction of the ureter (the pain being due to the obstruction and not to the passage of the stone through the ureter) we often find the ureter considerably distorted. I saw a case a short time ago in which it appeared that the catheter was displaced externally within an inch of the lateral abdominal wall. There was complete obstruction on that side, with a tumor containing nearly one and one-half pints of urine with no history of any previous urinary symptoms.

Louis Frank: I wish to indorse what Dr. Keith has just said with respect to the normal position of the ureter, and to assure Dr. Solomon that the surgeons are well aware of this position. Notwithstanding this, however, the ureters are occasionally tied off. probably more frequently than we think, because in many cases in which this accident occurs it gives rise to no trouble, provided the other kidney is functionating properly. When the ureter is ligated, the over-distention of the kidney resulting from urine retention causes the kidney to atrophy.

Another point brought out by Dr. Keith, which I believe is very important, is that, not only in cases where a catheter has been passed for purposes of radiography, but where there has been complete obstruction of the ureter, or even where the pelvis of the kidney has been injected with protargol for the purpose of skiagraph, we find the ureter presenting a perfectly straight line, with all the curvatures straightened out—just as a coil of rubber hose will straighten out under distension. I believe this is a point that is frequently overlooked, and I am glad Dr. Keith has called attention to it.

In regard to the case of my own, which Dr. Day mentioned, this was the second case of calculus anuria that has come under by observation. I think it has been stated that in every case of calculus anuria, there are probably stones on both sides, or disease of both kidneys, but this statement is not borne out by clinical experience. In this particular case, autopsy revealed the fact that the pelvis of the right kidney was enormously distended, and the ureter was distended to the diameter of three-fourths of an inch or more. I expected to find a stone in this kidney, notwithstanding the fact that a skiagraph before operation had shown no shadow.

However, at autopsy, it was easy to see that the catheter introduced by Dr. Day must have encountered a fold of the collapsed and empty ureter which prevented its further progress.

This man also had a damaged kidney on the other side. The left kidney contained four calculi, one of which was obstructing the pelvis. On the right side he had a pyelonephritis, probably the sequela of an old obstruction by a stone, which probably passed through the urethra without attracting particular attention. As a result of this old pyelitis, infection ensued and a pyelonephritis developed, which gave him acute pain, and during the progress of this condition the obstruction became complete on the other side. There was a large sub-capsular abscess which communicated with the pelvis of the right kidney, with a number of miliary abscesses in the body of the kidney itself. Our decapsulation ceased about three-fourths of an inch from where the large abscess began in the upper pole of the kidney. It was necessary to hurry the patient off the table, as he had had anuria for eight days, and was beginning to show symptoms though not very marked. He was on the table for 40 minutes, and it was while I was preparing him that Dr. Day made his cystoscopic examination.

In another case of anuria which came under my observation, the obstructing calculus was passed, and was unfortunately destroyed during the course of a chemical examination to determine its composition. This man had absolutely no abnormal condition in the other kidney, and I believe Dr. Keith has since radiographed him without results. Dr. Bruce who made the earlier pictures, detected two or three calculi in the ureter. Judging from the clinical history, this man had passed calculi from both kidneys. We had no opportunity to make any pictures before operation, as he presented rapidly increasing blood pressure and beginning cloudiness of intellect, and something had to be done very quickly. Dr. Vance was associated with me in the operative procedure in this case. We did a nephrectomy, packing the kidney with gauze, and within twenty-four hours after the operation he passed 91 ounces of urine, and went on to complete recovery.

Just one more point. Renal calculus does not cause pain due to the pressure of the stone itself; the pain is due to overdistention of the pelvis of the kidney from obstruction. I have had several cases with obstruction in which there was no great difficulty experienced in passing the catheter beyond the point of obstruction. There is usually distention of the ureter behind the stone, which acts as a valve. A little pressure will dislodge the stone and the catheter will go on beyond it. Therefore, in cystoscopic examination, unless a wax-tipped catheter is used, the obstructing stone may not be detected because of the ease with which the catheter will pass it. Of course, the resulting rapid and excessive outflow of urine should attract the attention of the operator to this fact. An Xray picture, taken with a loaded catheter in the ureter will prevent the stone from being overlooked.

Geo. H. Day, (Closing): In regard to Dr. Keith's remarks concerning Dr. Bier's report, I believe Dr. Bier mentioned that in those cases where radiography fails to disclose the stone, it is in the bladder.

POPLITEAL ANEURYSM.

(REPORT OF CASE.)

By Geo. A. Hendon, Louisville.

A. L., 58, was seen in August of the present year. He presented very plainly a popliteal aneurysm and gave the following history: Three years ago while walking along the street, a large lump of coal from an unloading cart fell on his foot and rested against his shin. He suffered great pain at the time but was able to walk home and next day went to his doctor, who gave him liniment to apply which he did with evident relief. Three weeks after the injury he consulted the physician of the owners of the cart. This doctor, he says, pressed violently in the popliteal space with his finger and the pain was so great he almost fainted. In spite of his protests and assurances of pain the doctor repeated the procedure which again almost caused him to faint. From that time he noticed a swelling and experienced pain in the leg. Both swelling and pain increased until he was operated on.

He was operated by the obliterative Matas method. The wound seemed to heal kindly without suppuration until the twentieth day, when rupture took place with an alarming hemorrhage. After controlling this with a tourniquet an intravenous saline infusion was given and the patient removed to the operating room where the vessel was ligated in Hunter's canal. There followed no apparent interference with circulation in the leg below the ligature; not even swelling or numbness or cold feeling. This fact was no doubt due to development of collateral branches, before the first operation was performed but which took place much more rapidly afterwards.

I report this case mainly to recommend the operation of Matas for its ease and efficiency, also to sound a note of warning in regard to the lack of perfect security that one expects to obtain after the operation. In my case there seemed to be a failure upon the part of intima to form perfect organized adhesions between surfaces that were in contact before the cat-gut was absorbed. The rupture took place on the twentieth day which is about the time for absorption of the gut. The propositions submitted by this experience are: (1) Did the same conditions that caused the aneurysm to occur, by continuing active, prevent the formation of organic adherance of the contact surfaces? (2) Is twenty-days an insufficient period in which to expect organic adhesion to occur? (3) Was this a traumatic aneurysm? To answer question No. 3 in the affirmative would eliminate question No. 1. But I do not believe this was a traumatic aneurysm because the coal struck the dorsum of his foot and crest of tibia and I do not believe any doctor in the course of an examination could or would press with sufficient violence to rupture the coat of an artery. Although this patient gives no history of syphilis, I am, nevertheless, inclined to look upon his infirmity as proceeding from a constitutional dyscrasia that either was unrecognized or concealed.

The argument for the Matas operation is based upon the fact that the operation zone is limited within the sac wall therefore collaterals immediately adjacent thereto are not disturbed. This advantage, however, suffers some detraction in the fact as taught by the ancients and confirmed by more recent experience that the aneurysmal sac is composed of morbid tissue and does not resist infection or become restored as normal tissue would do under the same circumstances. Therefore surgeons of Hunter's time, and down to a decade ago, practiced ligation as far away from the aneurysm as was necessary to insure a site for the ligature in perfectly normal tissue. This practice was often fraught with disaster even after the era of aseptic surgery on account of irreparable interruption to collateral branches and consequent strangulation of the limb.

The Matas operation more than offsets the disadvantages noted by avoiding this contingency.

If, as surmised in the beginning of this report twenty days is not sufficient for perfect union to take place between intima and intima when brought in contact, I should advise the use of silk as the suture material, instead of cat gut. I do not believe it is safe to depend upon cat-gut for any greater length of time than twenty-one days at the utmost. The authorities have left the choice of suture material optional with the individual operator.

Six principles are involved in the intrasaccular method:

(1) The aneurysmal sac is to be regarded as a serous sac.

(2) Injury of collateral vessels is guarded against by the intramuscular method.

(3) The parent artery is obliterated strictly within the internal boundary of the sac. In proper cases the sac may be obliterated completely without disturbing the parent artery. In certain cases the parent artery may be reconstructed by creating a new blood channel.

(4) Collapse of sac relieves intra and peri-aneurysmal pressure.

(5) The satellite vein is spared.

(6) The sac can be folded upon itself and primary union obtained without employing drainage.

DISCUSSION:

W. C. Dugan: In my opinion the Matas operation has no place in the treatment of chronic aneurysm. It means that the patient is subject to the risk of a serious operation when a more simple operation will meet every indication in a satisfactory manner.

I am quite sure that the doctor is in error in the statement that collateral circulation was established between the time he operated on this patient and the time the secondary hemorrhage occurred. In practically all of these cases nature will provide for ample collateral circulation in three years time. Therefore, I believe that collateral circulation had already been established in this case, and that this accounts for the fact that he did not have oedema of the leg and nervous disturbances.

I wish to go on record as being unalterably opposed to the Matas operation in any case of chronic aneurysm. I do not believe it has any place except in acute aneurysms. It is all very well to talk about the ease with which a Matas operation may be done, but I do not believe it is indicated in chronic aneurism.

Geo. A. Hendon: As a champion of the Matas operation, as I unequivocally declare myself to be, I feel that it is incumbent upon me to defend it as far as I possibly can.

The strongest objection to the operation, in my opinion, is the fact that closure is made. The sac that is used to obliterate the vessel is necessarily composed of degenerated material or it would not be an aneurysm, and we must use this broken-down material to obliterate the sac. That is what caused men of an older period to ligate away from the sac as far as possible, in order to get into perfectly sound tissue. That this argument has not held good in practice, however, has been demonstrated by the proportion of recoveries under this operation. So far as the Hunterian operation is concerned, statistics quoted in the oldest edition of Keen's Surgery (which I believe is reliable) show that out of 100 cases, 13 failed to be cured by the operation, and of the 87 that were cured, eight had gangrene of some of the toes, and a part of the foot, showing that in this proportion of cases, collateral circulation had not been established. I do not know what further efforts were made to cure these cases;

the statistics I consulted did not go that far. However, such conditions have not been reported in connection with the Matas operation.

INTERESTING HEAD CASES.

By Benjamin W. Bayless, Louisville.

Case I.—The mother of this case has had three normal labors, one instrument delivery and one version. Three children are living. This case was the third labor. After delivery the head was seen to be quite badly bruised from the forceps and a hemorrhage was noticed from the left ear, evidently due to a fracture of the base. The left pupil was dilated. He had a number of convulsions in the next few days. The child made a slow recovery and it was noticed when nursing he did not swallow easily. He moved his right arm and leg very little. The left pupil remained dilated, the right being normal.

At two years old he had an attack of meningitis.

He began to walk and talk a little at about twenty-eight months.

He was nearly five years old before he began to put words together to make sentences.

Present Condition.—He is now 7 1-2 years old, well nourished except right arm and leg. He is large for a child of his age, weighs 63 1-2 pounds, normal 50 pounds. His head is larger than normal, circumferance 22 1-4 inches, normal 20 3-4 inches. (His hair is very heavy, however). He walks, but as an old paralytic, dragging his right leg. No shortening. Right arm weak and hand flexed, uses it very little. Right pupil normal, left dilated, both respond to light. His speech is slow and ideas seem to come slowly, what he says is hard to understand. His hearing and sight appear normal, but when he looks at any object he turns his head to the right. Tongue on protruding deviates to left. Muscles on right side of face weak. Has a bulging over left temporal region which is marked to palpation, but viewing from the front is not very noticeable, especially as his hair covers it. This bulging was not noticed after birth, but has gradually increased in the past few years. Has never complained of headaches.

The X-ray shows in the posterior-anterior view a normal thickness of the skull except in the left temporal region. Here it seems that the inner table has disappeared and the outer table is thinned, due to a local destruction from pressure. There is a marked bulging in this area. The squamous suture appears more opened than normal. The anterior-posterior view shows the same thinning and the inner surface smooth.

The lateral view shows a flattening of the sella turcica with a greater angle between the dorsum of the sella and the cribiform plate of the ethmoid. This angle should be not over 125 degrees, in this case it is 130 degrees. The flattening of the sella is due to an increased pressure and not an enlargement of the pituitary body.

At birth there was evidently a hematoma formed in the left temporal region and possibly a cystic change has taken place in it causing the increase in size and the local pressure which produces the destruction of the bone.

Case II.—In the latter part of November, 1901, while bird hunting with some friends, this case was accidently shot. The shot was a No. 7 1-2 and it entered the inner canthus of the right eye, producing only a slight external injury, ranging backward and across the median line, lodging in the left side of the brain and causing a right-side paralysis. It did not injure the sight. He was unconscious for about 20 days.

His right arm and leg are partially paralyzed now. The shot is not causing any symptoms at present. It is located slightly back of and 7-8 inch above the left external auditory canal, 1 inch posterior to the pituitary body and about 1 1-4 inch from the median line.

Case III.—Male, age 42. While riding in a train March 7th, 1913, was struck by a rock, thrown into the train, in the left temporal region. Immediately after the blow he became faint, but did not lose consciousness. He was nauseated and vomited a little; his pupils were noted to be dilated and was sweating. When he got to Louisville he kept an appointment at his offie with several men. He had no recollection of this however, for several days afterwards. Did not consult a physician for 26 hours after the injury. At that time there was noted pain in the left temporal region over point of injury, but no swelling. General headache, very slight weakness in right arm and leg. Left pupil dilated; some sight for large objects, but inability to read the largest type.

The paresis in the right arm and leg increased, but never to complete paralysis. No loss of control of sphincters.

Complete loss of sight of left eye, but examination of fundus showed no change. No involvement of speech except by weakness of muscles used in speaking. Mental condition slow, but always clear. No spasmodic action of muscles at any time. Pulse 66 to 72. Blood pressure 100 to 122. Temperature and respiration normal.

He grew somewhat worse for 5 or 6 days, then began to make a slow, but gradual improvement so that now he has completely regained the power in his right arm and leg and the sight of his left eye is rapidly improving.

The X-ray shows very clearly a depression in the left temporal region. The depression is not apparent in the lateral view nor was any depression noticed on palpation, but the posterior-anterior view shows the depression which evidently only involves the inner table.

Case IV.—April 29th, 1913, he was thrown from an automobile and struck the back of his head. He had very few symptoms only a slight concussion of the brain.

The X-ray shows a fracture posterior to the left ear which does not involve the mastoid cells.

DISCUSSION.

J. Rowan Morrison: I had the pleasure of seeing one of the cases reported by Dr. Bayless, the one in which the patient had been struck in the temporal region with a stone. When I saw this patient four hours after the injury had been received, he exhibited no symptoms except tenderness and soreness over the site of the injury; there was no discoloration. The question arose later, as to whether the symptoms manifested were due to the injury or to some intracranial trouble. The X-rays solved this question very beautifully, and also showed that there was no fracture. The patient exhibited symptoms which, to our minds, indicated sub-dural rather than extra-dural hemorrhage, which was probably due to laceration of the arteries of the brain rather than the meninges.

Louis Frank: I have had the pleasure of seeing some of the cases reported by Dr. Bayless, and to me the X-ray findings were very interesting. In fact, in two of these cases, an absolutely positive diagnosis could not have been made without the aid of the X-rays. This is true of many head lesions and in head injuries and lesions the X-rays is of inestimable value and has a very great field. Needless to say that its use should in such cases always be insisted upon. I saw the case that Dr. Morrison referred to and as he has pointed out, the question of the nature of the lesion arose, and without the X-rays we would have been unable to determine this definitely. In my opinion, the patient probably had laceration of the brain substance, with some effusion of blood sub-durally. The possibility of an intracranial lesion was recognized, and the advisability of doing a decompression operation was discussed, but there was no evidence of intracranial pressure, no changes in the eyes, etc. The outcome of the case has proved the propriety in this particular instance of the plan of procedure that was carried out, i.e., conservative treatment with waiting and watching. Notwithstanding this we think in many skull fractures the best plan is immediate operation with decompression. Especially is this true if the fracture is at the base.

Another case that I had the pleasure of seeing was that of the man injured in an automobile accident. I thought possibly this patient had a fracture, as there was tremendous oedema over the mastoid process. Although, after the first few hours, he exhibited no evidence of brain disturbance, still he had a persistent headache which continued for a week or ten days. Therefore, it was desirable to determine positively whether or not he had a fracture, with possibly hemorrhage into the mastoid cells. Furthermore, in view of the circumstances surrounding the injury, there was a possibility of legal questions arising. Then, too, our advice to the patient in regard to the care he should take of himself in the future depended upon an accurate diagnosis, which, without the aid of the X-rays would have been impossible. No depression could be detected upon careful palpation, although we did not shave the patient's head.

The first case reported by Dr. Bayless is a very interesting one. It brings to mind one phase of the subject which I referred to three or four weeks ago in connection with a report of a case of epilepsy. This case illustrates what may happen to the child at birth when forceps are employed to facilitate delivery. To my mind, this patient has probably had a hemorrhage; more than likely there is a cyst that is giving rise to the symptoms. What an operation might do for this child is a debatable question, but in my opinion it should be given the benefit of the doubt and the head explored.

Milton Board: Dr. Bayless has reported some very interesting cases. It is a subject that strikes the medical profession at its weakest point. The mental symptoms in injured brains are always interesting, but we know so little about them. Dr. David Meyer, of New York, is doing more work along this line than any one else in this country, but in spite of his splendid work during the past few years, the medical profession is still far behind in tracing the line between head injuries and the mental phenomena that are manifested. The lay mind has always associated head injuries with mental manifestations; hence there is a general desire on the part of the lay public for operation in every case of mental disease, whether it be epilepsy, some form of insanity, or what-not, in the hope of obtaining a cure. I have examined the entrance blanks of some twenty or thirty different asylums for the insane in this country, and I do not recall a single one that did not ask the question as to whether or not the patient had ever sustained an injury to the head.

This is a very interesting and instructive subject, but the medical profession is not getting as much instruction out of it as it should. For that reason, such reports as Dr. Bayless has presented are of paramount importance. So far we have not been able to do our full duty for these patients.

REPORT OF AN UNUSUAL CASE OF HYPERTHYROIDISM FOLLOWING THE REMOVAL OF MORPHINE IN AN HABITUE.

By Curran Pope, Louisville.

It may not be amiss to state that I had long years of experience in the treatment of the morphine habit; that I have seen numerous peculiarities develop with the concession of the drug; have seen functional disorders and organic lesions uncovered by its removal, but I have never yet, in hundreds of cases, encountered a case of hyperthyroidism in even its mildest forms.

As is well known and of which I have given a detailed description elsewhere (the Treatment of the Morphine Habit, *Lancet-Clinic,* 1904) our methods of removing the morphine consists largely in free elimination, rapid reduction, the prevention of acidosis, the use of baths, massage and physio-therapeutic remedies. No hyoscine is employed. With care the time required for the immediate removal of the drug, without shock, can easily be reduced to about seven to ten days.

The case is that of a lady, thirty-four years of age, married, the mother of two normal, healthy boys, has lived at home and followed the usual occupation of a housewife and mother. She is five feet two inches in height, of strong, chunky build; has lost considerable flesh and weight on admission to the sanatorium 125 pounds, gross. Her complexion is pale, her nutrition poor, although she gives the impression of a strong looking, well developed woman. The inception of the habit came through the medical administration of the drug and she is at present using, from twelve to fifteen grains of morphine in four or five doses daily, by the hypodermic method. Her family history shows a rather neurotic tendency; her father died age 71 of diabetes; her mother age 68 is still living in excellent health, but rather high strung, one sister is in poor general health and nervous, the other rather frail and nervous. There is no tuberculosis, cancer or mental disease in the family. The patient was born at term, developed normally, grew to be a sturdy child, received an ordinary education, married and lived the average woman's life. She had the ordinary children's diseases, the exanthamata, pneumonia, so-called "muscular rheumatism" and has been neurasthenoid, in mild degree, three times.

The patient has been what she calls healthy, although on three occasions she has been more or less nervously exhausted, tired and at these times complained of cardiac palpatation and anxiety, not enough to constitute a true *anxiety neurosis.* She attributed these nervous conditions to anxiety and worry and to a failure to digest properly; her inference with regard to the latter, however, probably illustrating the saying, of the cart before the horse.

Physical examination showed her lungs normal with most excellent chest box and full developed bust; the respiration 22 to 26, temperature 98 degrees F.; the heart is normal in size, the sounds clear and strong; the pulse good, 88 degrees sitting, 88-92 standing. The blood pressure, systolic 125, diastolic 110, pulse pressure 15.

She complains of no digestive disturbances, is careful in the mastication of her food, has a good appetite but is constipated because of the morphine and has occasional bilious attacks, which she likewise attributes, and justly, to the drug.

She has a rather large but normal abdomen, there is no visceroptosis, the kidneys are normally in place, there are no enlargements of the lymphatics, nor any evidence of intra-abdominal disease. The skin is clear but a trifle dry. The thyroid is normal in size and rather difficult to discover.

Her period came on at the 14th year, was of the 28 day type, duration five days, normal in amount with some pain the first day. Both of her labors were normal and there have been no miscarriages. There was a slight perineal tear following her last labor, but outside of this no pelvic disease. Since the commencement of the drug, however, she has noticed no failure of menstruation, but a considerable diminution in the quantity and length of the flow.

Under the influence of the drug she is placid, quiet and comfortable, is very clear and concise in all of her statements although she says that since she commenced the morphine her memory has been at times treacherous, her concentration somewhat lessened and that at times she finds great difficulty in doing mental work. She dreads the removal of the morphine, don't think she can stand it and is only willing to be taken off because of the urgent necessity for her to take her normal place in every day life. She feels that she cannot allow her children to grow up and see her in this condition.

Our observation would be that there is a fair degree of mental deterioration, such as is commonly found in the responses made by morphine patients. She does not consider that there has been any real change in her mentality. She is of a rather jovial, happy disposition as a rule when in health, but has felt shame of the addiction and realizes that she has at times been very nervous and irritable. She sleeps well, dreams some little, usually of the infantile type, is inclined to headaches, especially severe headaches during the bilious attacks. The knee jerks, achilles and superficial reflexes are increased markedly; the Babinski and Chaddock negative and there is no clonus or ataxia. The spine is straight with no tenderness and in fact, she has what she calls "a strong back." Her special senses of sight, smell and taste are normal, the pupils are pin point, no reaction (morphine).

The laboratory findings were as follows: *Urine*: she was passing 1200 c.c. of a specific gravity 1005, reaction acid, 25. Urea 2.3 increased phosphates and sulphates, there was no reaction to bile, a plain trace of albumen with indican and urobilogen present. Microscopically there was uric acid and sodium urates; squamous epithelium from the bladder; a number of pus cells, a few casts of the granular type, no blood cells. The *Blood* showed red corpuscles 3,800,000, whites 14,000, white to red 1:274, the blood plates scanty. Hemaglobin is 80 per cent. A few microcytes and a general paleness of the blood disks shown under the microscope. The seriological examination gave a negative reaction, to the Noguchi, Lipoid and Cobra Venom tests. The *gastric* analysis showed a diminution of hydrochloric acid and a moderate lessening of motility but otherwise a normal state. No *X-ray* examination was made of the gastro-intestinal tract.

The patient was put upon our usual method of elimination and taken off of the drug without the use of hyoscine. At the end of six days the morphine had been removed and she was seemingly in good shape, on the morning of the seventh day, there was a sudden swelling of the eyes, a marked protrusion, a very slight von Grafe sign; pupils quickly responsive to light. The thyroid at the same time had enlarged markedly, was hard, tense and upon auscultation showed a slight bruit. The pulse had risen to 160, was small and wiry, but weak; there was marked tremor, sweating and persistent diarrhoea, in other words a sudden or acute hyperthyroidism. The patient at times was just a little flighty, was exceedingly nervous, restless and irritable. The treatment employed consisted of immediate and free purgation, by means of castor oil, the internal administration of stropanthin and the ice bag over the thyroid and heart. Several times it looked as though we would lose the patient, but at the end of three days, the attack began to subside and improvement set in. There was a slow but steady recession of the eyes to practically normal, a slower diminution of the thyroid, a drop in the pulse and cessation of the tremor and sweating, a very slow and gradual recovery from the diarrhoea. At the end of the fifth day she was up and by the end of the next two weeks approached closely to her normal state.

During the convalescent period and after she left her room she was given reconstructive tonics, the strophanthin was gradually reduced, tonic hydrotherapy, galvanism, etc., administered, so that at the end of a month from the time she entered the sanatorium, she was permitted to go home and continue the after treatment under the direction of her family physician.

I have kept closely in touch with this case since and am happy to state that she is not only free from the drug, but free from the terrible mental burden of the habit. Her former mental attitude of doubt and scepticism has been replaced by a normal one. She no longer wishes to take a flight into unreality, but feels the necessity and responsibilities of her life; of the call and demand for real labor and attention on her part of her husband and children; of the need for her love, care and attention and it is our belief that, insofar as the original trouble is concerned, she has been placed upon solid ground and that the likelihood of a relapse to morphine seems, at present, not likely to occur. We believe that this attitude has been helped by a few psycho-analytic seances, together with re-educative and reconstructive psychotherapy, an important part of the treatment of morphinism that is at present neglected to an extent most wonderful to observe. We believe that this case should be watched and carefully cared for and that under the intelligent care of her physician should reach a state of normality and maintain same and that should any evidence of hyperthyroidism again make appearance, that she should be at once submitted to the medical treatment for this affection.

Naturally the first question that would arise in a case of this character, would be the nature of the so-called neurasthenoid attacks from which she previously suffered. From her own testimony and from the statement of her family physician, I would be inclined to take the position that they were not abortive attacks of Graves' disease, in fact, there were then no symptoms that would really justify one making a diagnosis of a mild or an abortive exophthalmic goitre.

The only explanation of the attack that suggests itself to my mind is that perhaps she has had a slowly developing Graves' disease and that the manifestations of same have been kept under by the use of the drug. Yet on the other hand the very rapid subsidence of the manifestations of exophthalmic goitre and their *present absence* would seem to indicate that we had to deal with an acute hyperthyroidism of obscure origin. The case has been one of considerable interest to me and so far as my experience goes, and a somewhat extended search of the literature, shows no similar case of this character. For these reasons I believe that the case is not without interest and possesses some value for that reason.

DISCUSSION.

Jno. J. Moren: I would like to ask Dr. Pope how he explains the proportion of 14,000 leucocytes to 3,000,000 blood cells. The proportion is rather high. Was there any evidence of a chronic infection

A. W. Nickell: I would like to ask Dr. Pope what, if any, experience he has had with thyroid, thymus or suprarenal extracts in this condition; what results with the use of the faradic, galvanic and sinusoidal currents. Also whether he used the Beebe serum now being tried out by Rogers and others, as this would seem an ideal case for its institution, and if he thinks there is any effective treatment other than surgical for the so-called fibrous type of goiter.

Curran Pope, (Closing): The high leucocytosis referred to by Dr. Moren can be easily accounted for by the fact that there was considerable pus in the urine of this patient. The ratio of white to red was as 1 to 274.

Replying to Dr. Nickell; I have never used the Beebe serum, but I believe that this was just the type of case (a good active one) that would have benefitted from the serum. If I could have waited for the serum I would have taken the opportunity to test it, but this was one of those cases that keeps one pretty close in attendance and somewhat on tender-hooks until the acute symptoms subside.

Personally, I have absolutely no faith in the efficacy of any electric current in exophthalmic goiter other than the galvanic, possibly the high frequency. In the first place, I do not believe the faradic, or the sinusoidal, or any other electric current is indicated in exophthalmic goiter, although they may be indicated in some of the complications. The 14 to 16 swelling sinusoidal current is very valuable for overcoming intestinal stasis from any condition, and we all know that there is considerable toxemia of gastro-intestinal origin in exophthalmic goiter. Therefore, while it would be a very valuable supplementary procedure, it would have absolutely no effect upon the exophthalmic goiter per se.

Speaking physio-therapeutically, the incandescent electric light bath, followed by hydrotherapy; the ice-bag to the thyroid and heart; the galvanic current; keeping the entire intestinal tract open, and the rational use of certain medicines, constitute the treatment of exophthalmic goiter from a medical standpoint.

I do not believe that anyone, by means of any electric current should attempt to dissolve a fibrous goiter. That is, to my mind, a strictly surgical condition.

I wish to say that, after preparing this paper, I sent a copy of it to Dr. Crile, and asked him to pass upon it. knowing that he had had a very wide experience along this line. I received a letter from him a few days ago, stating that he had gone over the case and over his records, and that he considered the case absolutely unique, never having seen anything like it. I had myself felt it to be an unusual case, and I was glad to have the confirmatory evidence of such a distinguished and experienced gentleman as Dr. Crile.

THE LOUISVILLE SURGICAL SOCIETY —STATED MEETING, MARCH 21, 1913.

THE PRESIDENT, J. GARLAND SHERRILL, IN THE CHAIR.

FRACTURE OF THE SKULL.

By W. O. ROBERTS, Louisville.

On March 11th, 1913, a railroad brakeman aged twenty-eight, while riding on top of a freight car, was struck on the head by a bridge. When I saw him in East Louisville about half an hour later, he was lying on the table in the yard office with a handkerchief tied around his head. He was able to sit up but seemed quite weak. As his hat was lost, his head (except the face) was covered with absorbent cotton, and with a man on either side he was able to walk to my automobile about a block distant. Just as the automobile was reached the man vomited a large amount of food recently ingested, but nothing else. He entered the automobile without assistance, and we drove about two and a half miles to the hospital. While he said nothing during the trip to the hospital, I did not like the way he looked. When his attention was called to some boys in front of the automobile he seemed to be slightly dazed and did not understand. When within about two blocks of the hospital he leaned out of the window and again vomited. I did not notice what he vomited, but my chauffeur stated afterwards that it was blood. The man walked to the hospital elevator and we proceeded to the surgical ward. My son, Dr. Yandell Roberts, happened to be in the hospital at the time applying some dressings, and the patient was turned over to him.

That evening my son called me over the telephone and asked if I had any idea that the man's skull was fractured, to which I replied no, that I had not examined him, not even removing the bloody handkerchief from his head, simply covering it with cotton. My son said when he uncovered the man's head he found a wound on a level and just to the right of the occipital proturberance, that this wound was as long as my finger, extended to the bone, and the skull was found fractured.

After the patient was anesthetized the wound was enlarged to within half an inch of the orbit, and it was found the fracture extended from near the occipital protuberance to the orbit. The upper portion of the skull was depressed beneath the lower portion, and it became necessary to remove with chisel some of the bone before it could be elevated.

I visited the hospital to-day, ten days after the accident, to get a history of the injury before making this report. The man told me he was standing on top of a furniture car; that there was only one car (an oil tank) between him and the engine; that he was riding with his back to the engine; that he could not face the engine because the smoke blinded him. The last thing he remembers is his standing on top of this freight car. He does not remember when he was hit or anything about it. He is supposed to have been struck as the car passed under a bridge. He was found lying unconscious on top of the car when they reached the yard in East Louisville about half a mile from the place of accident. He was taken into the small office where I found him, and in a few minutes he seemed to "come around" all right. He does not remember my coming to see him, walking to the automobile, nor having vomited; but said he had an indistinct recollection that, just before we reached the hospital, he told me he would have to lean out of the window or he would vomit in the machine! He made no such remark to me, but simply leaned out of the window and vomited. He remembers nothing until shortly after he awakened in the ward after the operation. He has gotten along uninterruptedly well and when I visited the hospital to-day he was sitting up in a chair.

This case is interesting because of the extensive cranial damage with no other symptoms than loss of memory and unconsciousness for a short time after the injury was received. In concussion of the brain there may be a lapse of memory for a considerable time after the injury. A remarkable case of the kind was observed some years ago. The patient was a railroad man brought into Louisville from Anchorage. When I saw him he was sitting in the caboose with his head resting in his hands. Examination disclosed a few slight scalp wounds, and after these were dressed I told the man I would take him home. When asked where he lived he said "down on Jefferson street." One of his friends standing near remarked: "No, you don't, you did live there, but you have moved, you now live on Franklin street!" This proved to be correct. It was not quite daylight when we reached his house. He told me when we arrived at his place, and said "we would have to go around the back way!" He asked me to wait on the porch while he went after a light. He entered the house, I heard him ask his father for the lamp, and he was told it was on the window and that matches were on the mantle! He lighted the lamp, then came to the front of the house and admitted me.

Late in the forenoon when I called again, he told me that he did not remember anything of my previous visit. He said the last thing he remembered was "at Anchorage, when they blew for brakes, and he started up the ladder." The crew missed him and went back to Anchorage, where they found him sitting on the station platform.

This man had no fracture of the skull, he simply had concussion of the brain, and he recovered without any trouble whatsoever.

DISCUSSION.

H. H. Grant: Did you ascertain whether or not there was any injury to the dura in the first case?

W. O. Roberts: There was no injury to the dura, and no hemorrhage inside the skull, which was surprising, as one would think from the extent and location of the fracture that there would have been some intra-cranial hemorrhage.

A. M .Vance: I have seen a great many cases similar to the one reported. Some of them are remarkable in that the patients do not show any particular indications of the serious damage inflicted. I reported a case before a medical meeting at Old Point Comfort in which a boy had his entire right parietal bone torn out as the result of a street car accident, and while underneath the car he was able to talk to those standing about. When released he crawled out and walked to the curb, and was never unconscious for a moment. Tremendous injuries to the skull may be inflicted without apparent influence upon the brain cells. Loss of memory is a common accompaniment. I remember one patient whose memory was blank for thirteen years, and after trephining with elevation of the depressed bone his memory returned. In another case a man fell against the curb and sustained serious injury to the skull; he was able to walk about for a while, but finally died from the injury. Necropsy showed the skull about the thickness of an egg shell.

H. H. Grant: All surgeons understand that fracture of the skull is unimportant in the great majority of cases, that it is the injury to the brain tissue which gives rise to the symptoms. In the case reported by Dr. Roberts there must have been concussion in addition to fracture, and this caused the immediate symptoms manifested. While surgical intervention was the only treatment to be considered, still the fracture itself was not the cause of the immediate symptoms, they were principally due to the brain being "shaken up" by the injury. It is recognized also that there is not only a "shaking up" of the brain in these cases, but almost invariably some laceration of the brain structure, when a patient receives sufficient concussion to induce symptoms of such gravity as were present in this case.

Lapse of memory is common after injury and severe concussion such as occurred in the second case reported, this man being as much "out of his mind' as the one with extensive fracture, yet his condition can be explained only by concussion with probably some laceration of brain tissue as almost invariably occurs.

Irvin Abell: Just a few words to emphasize the importance of operating upon every patient with fracture of the vault of the skull. The only fracture of the vault which should not be operated upon is where the wound has already commenced to suppurate. While there may not be induced at time of the injury either local or general symptoms of sufficient gravity to indicate radical surgery, yet later epilepsy may develop, and benefit does not accrue from later operations as a rule. I would operate upon every one of these patients as soon as possible after the injury, with correction of any bony defects and removal of any clots present.

J. M. Ray: If I may be permitted, I would like to report a case along similar lines simply to show the amount of disturbance which may follow even slight injuries to the skull. A man while riding on the platform of a railway coach coming to Louisville two weeks ago was struck in the left temple by a round stone the size of an egg and stunned for a moment. He was dazed for a short time, then recovered himself. He complained of headache, but went about his duties that afternoon. The next morning he came to my office complaining that he could not see well with his left eye. Examination showed the left pupil widely dilated, and he could only tell that something was moving as my hand was passed before that eye, but there were absolutely no changes in the fundus of the eye. He said there had been some nausea, vertigo, and "buzzing in his ears." There was no defect in the visual field of the right eye.

This man was advised to go home and rest in bed for a time. Right hemiplegia slowly developed, also slight hesitation in speech.

The accident happened two weeks ago. I have examined the patient's eyes at intervals since, the left pupil is still dilated, there is no perception of light in that eye with the electric ophthalmoscope, no change in the fundus, and no swelling of the optic nerve. Paralysis of the right side and hesitancy of speech have continued.

The curious feature in this case is, where injury to the optic nerve occurred. If there had been fracture of the skull with meningeal hemorrhage, most likely there would be pressure upon the optic tract with defective vision in both eyes. There may be a fracture extending forwardly into the optic foramen with pressure upon the optic nerve in front of the chiasm on the left side,—that is apparently what occurred.

J. G. Sherrill: I have seen a large number of these cases, and have found that each fracture of the skull is a law unto itself. I have had four head injuries during the last week, two fractures of the skull from violence, one from gunshot wound, in the fourth fracture did not occur. Like Dr. Abell, I believe there is one class of fractures of the skull in which surgical intervention should probably not be undertaken, viz: those which induce no symptoms indicating brain injury, where there is probably only a "fissued fracture,"—but even in some of these the patient later develops epilepsy. However, with symptoms, and without positive evidence of fracture, where the patient improves under treatment, it is questionable whether we are justified in resorting to operative intervention.

Many surgeons claim all fractures of the vault of the skull should be exposed,—and my remarks have especial reference to fractures of the vault, —that these fractures vary greatly in extent and the amount of damage inflicted. As demonstrated by Drs. Roberts, Vance and Ray, an apparently trivial injury may prove to be exceedingly serious, on the other hand an injury which may seem serious and extensive, with probable depression of bone and laceration of brain tissue, may not prove so serious in its results. Until the skull is exposed it is almost impossible to determine the actual extent of the injury, and the prognosis is in great doubt.

One of my recent cases had a depressed fracture just external and posterior to the angular process of the frontal bone. It covered a space three-fourths of an inch in diameter, the internal table being more widely damaged than the external plate. The injury was inflicted with a hammer. Another was also a fracture of the skull from a blow of a hammer, the patient being able to walk about for a week without loss of consciousness at any time. The blow was struck at right angles, the hammer coming in contact with the skull just above the left superior curved line on the occipital bone, the wound being the exact size of the hammer. There was considerable shattering of the bone, the inner table being damaged more than the external plate. It is the localized force which causes fracture of both tables. However, there may otherwise be caused a fissure which may spread widely over the skull, but with the production of less local damage.

The present trend of surgical opinion is that hemorrhage causes greater disturbance than does pressure from the fractured bone. Cline records a case where the bone was markedly depressed, where the patient lived fourteen months without memory, without being able to talk, practically in a state of unconsciousness throughout, and at the end of this time was operated upon and immediately restored to consciousness. Had there been extensive hemorrhage within the cranium with unconsciousness for that length ot time, most certainly the condition of the brain would have been such as to render restoration of consciousness much less likely than from merely the removal of fractured and depressed bone.

In the second case reported by Dr. Roberts, it is a question whether there was not a fracture of the internal table. It has been well established that fracture of the internal table may occur without a break in the external plate. In other words, there may exist an extensive fracture of the skull without indicative evidence thereof on the surface, which should make us very careful in giving an opinion concerning the probable outcome of a certain injury, i. e., the prognosis should always be guarded.

As to the case reported by Dr. Ray: There most likely occurred a fracture leading across the temple and probably the lesser wing of the sphenoid bone, causing damage to the optic nerve; or, there may be pressure upon the optic nerve inducing paralysis and loss of function. Dilatation of the pupil may be explained by pressure upon the motor oculi as it enters the orbit. Loss of power on the opposite side, interference with speech, etc., indicate that the patient has a small cerebral hemorrhage in the neighborhood of the fissure of Rolando; or, there may be an extra-dural hemorrhage in that situation which is causing the symptoms from pressure. I believe the man should be promptly trephined if his eyesight is to be restored, and if his power of speech is to be regained. He ought not to be permitted to go without operation, because a cyst will almost certainly develop if no other lesion occurs, and he will lose his life when it probably could be saved.

All injuries of this kind are of extrēme interest, and our opinions concerning them should be given in accordance with our experience. While the operation of trephining the skull was formerly serious, it is now practically devoid of danger. Years ago Philip of Nassau, was trephined twenty-eight times and lived for years thereafter. The case is recorded in Keen's Surgery, together with the name of the operator. At present we may recommend this operation with more freedom than formerly. Every depressed fracture, and every one of compound fracture of the skull, ought to be explored, and especially should drainage be practiced in the latter cases, all depressed bone elevated and all hemorrhage controlled.

A. M. Vance: I agree in the statement that Dr. Ray's patient should be operated upon. There is evidently a depressed fracture of the skull, and the treatment indicated is to trephine and elevate the depressed bone. I have observed cases with less evidence of injury to the cranial contents, where the patient later developed epilepsy, excessive irritability, loss of mentality, etc., where operation was not performed primarily, though some of them recovered after later operation. The eye symptoms in Dr. Ray's case are out of the ordinary, and I do not recall a similar example in my experience. I doubt whether the injury is as far back as the middle meningeal artery allowing blood to escape, but it does not take much blood to induce such symptoms; therefore, a small vessel is probably the source of the hemorrhage. I understand when this man arrived in the city it was noticed that he was slightly incoherent, yet he was able to walk about the following day.

H. H. Grant: I think there is no question about correctness of the diagnosis in Dr. Ray's case, as Drs. Vance and Sherrill have indicated. As I said in discussing Dr. Robert's report, the lesions of the soft parts (the brain) interest us chiefly, it does not make much difference whether there is a fracture or not.

I would go further than Dr. Sherrill in considering cases which require operation, and include all head injuries where symptoms do not promptly disappear. I believe all such patients should be subjected to exploratory operation. While the danger is slight in some cases, yet there may be lesions which can be reached, and the proper step is to explore them in a safe way. All fractures of the skull, even those of the base, where symptoms do not promptly disappear, should be exposed by exploratory operation, elevating any depressed bone and removing any clots which may have accumulated. It is practically impossible to control hemorrhage in fractures of the base of the skull by either pressure or by ligation, but drainage will permit escape of accumulations which if allowed to remain would almost certainly become infected and induce lesions which would eventually destroy the life of the patient. In the majority of cases where there occurs a fracture of the base, the patient becomes progressively worse, and will soon perish unless something is done to afford relief. Operation upon fractures of the base is practically as harmless as in that of the vault, an incision is made through the soft parts, a trephine is utilized if necessary to thoroughly expose the site of injury, the shattered bone is removed, and hemorrhage controlled as far as possible. It is unwise to pack such wounds, and two or three drains should be employed if necessary to allow free escape of the fluid, after washing out such clots as may have accumulated before operation is undertaken.

While I agree with Drs. Sherrill and Abell in regard to the propriety of exploration, still I would go further and explore fractures of the base almost to the same extent as those of the vault where the patient, after an ordinary interval, continues to show symptoms of serious brain lesions. Exploration cannot do harm and may do a great deal of good. At least seventy-five per cent of all cases of injury to the blood vessels of the brain sufficient to produce pressure will terminate fatally without operation, and the intelligent application of surgery will save at least fifty per cent. of those that would otherwise die.

Irvin Abell: I am in perfect accord with previous speakers in reference to the diagnosis and treatment of the case reported by Dr. Ray. I recall a somewhat similar case in a man who was being treated for delirium tremens. There was no history of syphilis. He had a pulse of 60, there was complete dilatation of the right pupil, yet the ophthalmoscope revealed no change in the fundus of the eye. The only history that could be obtained was that he worked at a gas plant, having charge of a carrier running from one building to another, and this struck him on the right side of the head but did not fracture the skull. He complained of headache, and became incoherent, with loss of memory, which led to the conclusion that he had delirium. Believing that he had an injury to the brain, or at least hemorrhage within the skull, we trephined over the right side. There was no appreciable injury to the soft parts, and no damage to the brain, but a large clot was found over the anterior lobe which caused pressure upon the optic nerve. All the symptoms promptly disappeared after the clot was removed. I believe a similar condition exists in the case reported by Dr. Ray.

UTERINE FIBROMYOMATA.

By Ap Morgan Vance, Louisville.

I have a collection of fibroid tumors of the uterus which I have had no opportunity to exhibit during the last few months. They illustrate almost every known variety of this class of uterine neoplasms, e.g., myomata, sub-mucous, interstitial, and sub-peritoneal tumors, will be noted in the collection. There are eight specimens, each illustrating some particular point of interest. The patients ranged in age from forty to sixty-five years; all recovered except one, the woman of sixty-five, who died of heart disease.

(1). I was called to see a woman of forty-nine, by Dr. Sam Manley, who said he had a case of persistent uterine hemorrhage, which he thought was a "bleeding fibroid tumor." However, that he was considerably puzzled on making an examination to find what he "believed was a child's head coming down!" When I reached the patient she was practically dead, absolutely pulseless and comatose. Restoratives were administered, foot of the bed elevated, etc., and the patient removed to the hospital the following day. Rectal injections of saline solution and other supporting and restorative measures were continued, Her condition slightly improved and I concluded to take the chance of operation. The tumor presenting in the vagina reached to the ostium, what remained of the uterus simply formed a cap or hood for the upper extremity of this tumor. It is an intramural fibroid larger than a grape fruit. All land marks were obliterated, and not even the uterine arteries could be located. What caused the persistent bleeding I do not know

(2). The second speciment represents a true soft myoma of the uterus which had attained considerable size. There is nothing of especial interest in connection with the case, except that this is the only one of the eight in which there was no hemorrhage.

(3). The third specimen is a combination tumor which has undergone calcareous degeneration. Several varieties are illustrated, e.g., submucous, interstitial, sub-peritoneal, cystic, and calcareous. The woman was forty-six years old, and had suffered with excessive menstruation, but there was never any alarming hemorrhage.

(4). The fourth specimen is a large pedunculated fibroid which has undergone malignant degeneration. The patient was sixty-five and died six months after the operation from heart disease.

(5). The fifth specimen is simply one of the common varieties of uterine fibromyomata, a large lobulated tumor, which was removed without any especial difficulty.

(6). The sixth specimen also illustrates a number of varieties of fibroid growth, including the so-called polypoid formation.

(7). The seventh patient was a woman of fifty who had bled to exsanguination from the uterine artery which had been implicated in the fibroid. The damaged artery was ligated and hemorrhage thus controlled. It is an old, degenerated, sub-mucous fibroid tumor.

(8). The eighth specimen simply represents another fibroid tumor with the formation of numerous polypoid excrescences. There was nothing of unusual interest in connection with the case.

DISCUSSION.

Irvin Abell: The only point I wish to mention in connection with fibro-myomatous developments of the uterus, is the question of treatment in young women. When patients are approaching the menopause, as most of these women are, e. g., over forty, unquestionably the proper treatment is entire removal of the uterus along with the tumor. However, when fibro-myomata occur in younger women, in my opinion the treatment should be more conservative. I have in the hospital now a woman of twenty-seven who has five fibroid tumors ranging in size from a marble to a hen's egg in the body of the uterus. I believe the proper procedure in this case is enucleation of the tumors, leaving the uterus intact. In one such case a woman of thirty-two was operated upon and three fibroid tumors, each about the size of a hen's egg were removed. I was unable to detect any further nodulations about the uterus at that time. In fourteen months she returned with a uterine fibroid as large as a cocoanut. Notwithstanding my experience in this case, however, I believe within the childbearing period the treatment is enucleation of the tumor leaving the uterus behind.

A. M. Vance: What do you think about leaving the ovaries in women under forty years of age? I recently operated upon a woman who had a large fibroid tumor. She was fifty-three years of age, and believing the ovaries could be no further service, they were both removed. This woman has had the most stormy menopause that I have ever seen.

Irvin Abell: Where it is possible to do so I would always leave the ovaries in patients of forty years and under.

J. G. Sherrill: The subject of uterine fibromyomata is always interesting. The question raised by Dr. Abell is alone one worthy of discussion. In women who are able to bear children, decision as to whether the uterus should be sacrificed must be settled by the operator when surgical intervention is undertaken. We know during our examination a small nodule may be overlooked, or there may be small nests of cells which may eventually become fibromyomata which will escape detection. However, if a patient presents nodules so situated that complete removal can be accomplished, and the woman is anxious to bear children, we are justified in pursuing the course mentioned by Dr. Abell; but, even under such circumstances, we must always be prepared to do a complete hysterectomy in the event of recurrence, or if additional tumors later appear. In older patients, and where the tumors are similar to those shown by Dr. Vance, this method of treatment would be unsatisfactory. In all cases presenting multiple tumors of considerable size, it would be distinctly unsurgical to attempt to isolate each tumor and remove it.

An exceedingly interesting feature in connection with uterine fibroids is the diagnosis. Ordinarily it is thought a fibroid tumor may be readily differentiated from pregnancy, yet many able observers have made mistakes in this connection. I reported a case before the county society some time ago which may bear repetition. A woman of thirty-five was brought to me by the family physician. She gave a history of having had a tumor in her abdomen for over two years, that her condition had become worse progressively, that pain and hemorrhage suddenly developed, that she had lost some flesh and had grown anemic. She was bleeding moderately notwithstanding her almost bloodless condition, which led to the conclusion that she had a uterine fibroid. In connection with the other symptoms, the woman's abdomen showed a rounded mass located centrally, something like a pregnancy would present at five and a half months. She gave absolutely no history of sexual intercourse. However, I was suspicious of pregnancy, although she was a maiden lady and assured me that she had never had an opportunity to become pregnant. After due consideration I made the diagnosis of fibroid tumor. The patient was examined by a prominent obstetrician who agreed with me in this diagnosis. The pallid condition of the woman led me to believe that she had suffered from persistent hemorrhage from a fibroid growth.

At the operation a number of local physicians were present. When the abdomen was incised I lifted an ovoid mass into the wound, and one of the gentlemen present immedaitley said it was undoubtedly a fibroid. The mass was pale in color, not so red as the ordinary pregnant uterus. The growth was grasped with tenaculum forceps to steady it and afford better opportunity for manipulation, and there immediately appeared a quantity of serum from the point of grasp of the forceps. At this stage of the operation another gentleman present exclaimed "it is pregnancy!" Having gone thus far I deemed it wise to inform them that I had fully considered the possibility of pregnancy, and had concluded the woman was not pregnant. However, to decide the question an incision was made through the uterine wall down to what appeared to be the amniotic membrane. From the fluid which presented underneath I concluded it was the amniotic membrane, and agreed to the diagnosis of pregnancy, which one of my friends in his excitement had loudly proclaimed. I manipulated the uterus carefully, to see if I could detect any foetus, but with negative results. There was merely a slight resistance through the body of the tumor. Not caring to induce premature labor, the incision was closed and the woman returned to bed in fair condition. Shortly thereafter she commenced to bleed as before, and there was slight shrinkage in size of tumor. She went home, and fortunately for all concerned she came back to me four months later (though I had told her of my suspicions) with the tumor slightly increased in size. At that time the diagnosis of uterine fibroid was easy, and her claim to virginity verified. The woman was again operated upon, the tumor being removed, and she has remained well since. She was in a highly anemic condition when I first saw her, and might have died from hemorrhage, so I think we were to be congratulated. The tumor had undergone cystic degeneration, and the cyst was covered by a menbrane similar in appearance to the amniotic sac, which led to the confusion in diagnosis upon the operating table.

The diagnosis of fibroid tumors of the uterus presents many problems which have not yet been solved

A. M. Vance, (Closing): There are only two features which I desire to mention in closing the discussion, one of which has already been answered, viz.: (a)what shall be done with the ovaries in women under forty years of age, and (b) what shall be done with the uterine neck in multiparous women? Shall we do a pan-hysterectomy, or leave the neck as a vault for the vagina afterwards? I have never seen a case where malignant disease later developed in the neck of the uterus, but it has often occurred to me that it might be wise where there is an old lacerated cervix to do a complete hysterectomy rather than leave the uterine neck behind. Where there is the least suspicion of malignancy, I have always followed this plan.

I have never operated upon a pregnant uterus for fibroid tumor. The question Dr. Abell raises is one that is hard to decide. In young women with one or two small sub-peritoneal nodules, enucleation might be advisable, but I would "lean to the position" of not temporizing with any of them.

URETHRAL CALCULUS.

By J. T. Windell, Louisville.

This small calculus is not in itself of any great importance, but the question of diagnosis, the manner of removal, and the fact that the X-ray picture which is also exhibited shows the calculus in the deep urethra, are features of interest.

The patient came to me a few days ago with a history that he was unable to urinate. I attempted to introduce a catheter, but not succeeding, the man was put on the table and the endoscope introduced. By this means it was possible to plainly see the calculus in the deep urethra, but it could not be grasped with any instrument. I sent the man out to Dr. Hanes and had an X-ray picture taken, to accurately locate the position of the calculus in the deep urethra, because I had never before seen one impacted in the urethra in this manner.

The calculus was easily removed from the deep urethra by external urethrotomy without an anesthetic.

DISCUSSION.

A. M. Vance: Several years ago I saw a case something like this in a boy two years old. There was enormous enlargement of the scrotum, but the child could still urinate without much difficulty. I suspected there was a calculus in the deep urethra causing partial obstruction. The scrotum was immense, urinary infiltration extending to the abdominal wall and upper part of the thigh. Incision showed the presence of a calculus in a pocket in the deep urethra, and the urine would pass around it. The child died later from pneumonia. This case is merely mentioned in connection with the one reported by Dr. Windell to illustrate the damage that may sometimes be done by these small urethral calculi.

H. H. Grant: I have seen several cases of urethral calculi that were partially impacted, but never encountered one so tightly impacted as to interfere with the passage of the urine. In two or three instances the calculi had to be removed with forceps, but the majority of them came away of themselves. I have never seen one in which there was complete obstruction to the urinary outflow.

J. G. Sherrill: In closing the discussion I wish Dr. Windell would state how long his patient had suffered from inability to micturate, and if there had been any other urinary difficulty. I have encountered several cases where it became necessary to remove calculi from the pendulous urethra with forceps, but have never seen one where a calculus became impacted in the deep urethra, causing obstruction either partial or complete.

J. T. Windell, (Closing): In the case reported the urinary obstruction was acute, it had only existed a few hours when the man came to me for treatment. There was no history of any other urinary disturbance.

VESICAL PAPILLOMA.

By H. Horace Grant, Louisville.

The specimen which I exhibit is a tumor removed from the bladder of a woman twenty-eight years of age who had suffered with hematuria for three years, more or less intermittent in character. There had been at times quite extensive hemorrhage from the bladder, sufficient to cause considerable alarm. Most of the time however, the bleeding was small in amount. Naturally there was a very irritable bladder, she had to empty her bladder fifteen or twenty times each night for the last year or more, and urination had been quite as frequent during the day time. She had much pain at intervals. She was a housewife and was practically bedridden most of the time. There was no pain about the kidney region, and no particular indication of pain anywhere except in the bladder. There was a little albumen in the urine, which was probably due to the presence of pus therein, but there were no casts at any time.

The patient had received a great deal of local treatment, with the administration of various remedies to control the cystitis, etc., but nothing further had been done. She had been under treatment about a year and a half.

A cystoscopic examination was made by my son, Dr. Owsley Grant, who was able to discover this tumor although he did not believe it was quite as large as it proved to be on operation. The tumor when removed was about as large as half of a small orange. Operation was performed the following morning after the cystoscopic examination was made.

A transverse incision was made according to the method recommended by Dr. Howard A. Kelly, in which the soft parts are separated, the fascial fat being lifted upward, then the deeper fascia divided all the way across the length of the six inch wound which was made. After all the soft parts had been separated, then the bladder was distended with water. Up to that time there had been no fluid introduced, the bladder being practically empty. After being distended the bladder was readily brought into the incision, and a transverse opening two and a half inches long was made therein. Inserting my finger into the bladder this tumor was plainly felt attached like a mushroom to the vesical wall by a small pedicle. The pedicle was not larger than a lead pencil, it was very friable, and when grasped with forceps it was cut entirely through. This left a very small portion of the pedicle remaining which was burned away by means of actual cautery. There was still some little tendency to bleed, and the base of the pedicle was quilted over with chromacised catgut No. 0, three or four stitches being inserted.

This woman had previously had so much trouble from hemorrhage that I considered it wise not to completely close the bladder lest there might be a recurrence of the bleeding. She did not lose much blood during the operation, probably not an ounce altogether, still it continued to ooze after the sutures had been placed, not much yet enough to make it seem advisable to insert a drainage tube into the bladder. I am now of the opinion, however, that it was entirely unnecessary to do this. A catheter was then placed in the bladder through the urethra, and ends of the catheter and drainage tube being sutured together with plain catgut No. 0 so the catheter could be drawn up to the external wound if necessary. The patient had no pain after the operation, nor has there been any hemorrhage, the drainage tube was removed the following morning. She is still wearing the catheter because there has been a slight amount of leakage through the external wound where the drainage tube was removed. The retention of the urethral catheter has not caused the slightest irritation, the urine all drains away through it, the external wound has healed except a small opening through which the drainage tube was inserted. This is the eight day since the operation, and the great relief from pain and bleeding, and the comfort she has had, are matters of wonderment to her.

The facility with which the bladder may be exposed by this method, which was first described by Dr. Kelly, induces me to most highly recommend it. This is the second time I have operated for tumor of the bladder by this method. However, where infection of the bladder is present the operation is a little more risky on account of the danger of sloughing in this region. Still, the operation itself is a great improvement over the method of exposure of the bladder by the ordinary supra-pubic incision. In both the cases mentioned the tumor was readily exposed and removed, and in both perfect union was obtained after the operation. Incision is made about half an inch above Poupart's ligament in the center, the incision is curved with the convexity upward. The skin and superficial fascia are peeled off, then the deeper fascia including any blood vessels around the margin of the wound pushed upward which assists in controlling hemorrhage, then as the bladder is distended it comes directly upward into the wound. In this case the border of the peritoneum in contact with the upper portion of the bladder was distinctly seen, we could push upon it with the fingers and were absolutely certain that the peritoneum was not injured. Aside from the fact that where a drainage tube is used there is some little risk of infection that might be troublesome, the operation in every way simplifies the manner of exposing the bladder ,and constitutes the best method I have ever seen.

This woman has had no infection, but where the drainage tube was there is a little leakage and some infiltration. The microscopist has examined sections from the tumor which show that it is a simple papilloma, no evidence of malignancy has been discovered, but he has several other sections to be examined before he makes a final report.

DISCUSSION.

Irvin Abell: One of the practical points to be deduced from a case of this kind is the disadvantage under which the patient labors when the medical or other attendants attempt to control hematuria by medical means without first demonstrating its exact origin. The history of all papillomata when allowed to go without removal is that they subsequently become malignant, and the longer temporizing measures are used to control hemorrhage just so much more opportunity is afforded for malignant changes to occur. I have had a number of cases, one in particular, where hematuria had existed for a much longer period,—seven years,—and except in the one attack in which I saw the patient, it had always subsided under the administration of turpentine. Plainly this particular tumor had not undergone malignant degeneration, but in seven years it certainly had abundant opportunity to do so. I think the time has come when the profession ought to take the stand that hematuria, or in fact any hemorrhage leading from the urinary tract, should not be treated medically until after careful utilization of the cystoscope and other measures recommended for the purpose of demonstrating the origin of the hemorrhage have been employed.

ACUTE GASTRIC CATARRH.*

By J. A. Day, Prospect.

Just as a little appetizer before eating whettens up the appetite for the meal, so will what I have to say on Acute Gastric Catarrh be only an appetizer for the great intellectual feast that is to follow.

It in itself will not be enough to satisfy the hunger for original knowledge, but sandwiched with what is to follow; will make, I hope, a most harmonious whole.

Acute gastric catarrh is a simple sounding phrase and to a lengthy treatise on which no materia medica mind at first thought would probably care to listen. But now it is of no such small import.

In what disease or condition are the services of the physician needed more than in that of acute indigestion, especially when the even tenor of heart is broken by a ranting, rambling stomach. Here his weapons of defense choose he must and soon must choose.

Acute gastric catarrh usually appears in one of two forms: Either the mild feverless attack in which the patient experiences a sense of discomfort with flatulence, distention of the stomach, followed by thirst, depression, headache, dizziness and eructation possibly with nausea and vomiting.

Or in the febrile form which begins usually with chills and fever. Here the tongue is broad, pale and heavily coated, marked anorexia, thirst becomes extreme and breath very offensive. Tenderness is found in the epigastrium, and abdomen as in former type is distended. Vomiting is usually present. At first only food is expelled, followed by mucus. Constipation is generally present in beginning but may make way for diarrhea. An eruption of herpes occasionally appears on the lips and is often the guiding star by which many a wandering Indian layman is led to his wigwam of diagnosis.

DIFFERENTIAL DIAGNOSIS.

Without any difficulty a mild case is incog. The severe attacks may prove to be an initial symptom of one of the infectious diseases in children. Especially is the presence of meningitis suggested when there is high fever, headache and delirium.

If it were not for the fact that the abdominal pain was elsewhere than over the gallbladder one would be almost tempted to diagnose it biliary colic. The short duration of the attacks and the presence of other symptoms seldom fail to remove all uncertainty.

TREATMENT.

What we want is to correct the error that caused the trouble and give plenty of rest. An excellent example of what should be done is afforded by the modern manner and kind discipline with which we treat the poor unfortunates who fill our penal institutions. Nothing better than they respond to good attention unless it is the stomach.

It is well, however, to administer a mild purge, calomel, castor oil or salts, to remove the decomposed food from the bowel and if vomiting does not take place it should be induced by the administration of hypodermic of apomorphine or ipecac.

If the patient is unconscious and stomach overfilled then it is wise to effect evacuation by means of the stomach tube for for vomiting may lead to aspiration of food into the trachea and severe consequences.

The evacuation and nausea may be both relieved by administration of aromatic spirits of ammonia or sodium carbolate and bismuth gr. aa v. If a free diarrhea does not follow from purge given then give gr. iii-v calomel in evening and epsom salts or sedative in the morning after which the patient should make a rapid recovery.

---

*Read before the Oldham County Medical Society.

THE TRUTH ABOUT MEDICINES

This department presents, in concise form, facts about the composition, quality and value of medicine. Under "Reliable Medicines" appear brief descriptions of the articles found eligible by the A. M. A., Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies." Under "Reform in Medicines" appear matters, tending toward honesty in medicines and rational therapeutics, particularly the reports of the A. M. A. Council on Pharmacy and Chemistry and of the Chemical Laboratory.

The text on which these abstracts are based may be obtained from the American Medical Association, 535 Dearborn Avenue, Chicago.

RELIABLE MEDICINES.

Articles found eligible by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies."

Digipuratum Ampules.—Each ampule contains 1c.c. of a digipuratum solution, equivalent to .1 gram digipuratum. Knoll & Co., New York. (Jour. A. M. A., August 23, 1913, p. 568).

Digipuratum Solution for Oral Use.—Vials containing 10 c.c. digipuratum solution, each c.c. representing .1 gram digipuratum. Knoll & Co., New York. (Jour. A. M. A. Aug. 23, 1913.)

Tetanus Antitoxin.—For description of Tetanus Antitoxin see N. N. R., 1913, p. 213. H. M. Alexander & Co., Marietta, Pa.

Acne Vaccine.—For description of Acne Vaccine see N. N. R., 1913, p. 221. Schieffelin & Co., New York

Pertussis Vaccine.—Pertussis vaccine is a baillus Bordet-Gengou vaccine. Scheffelin & Co., New York.

Meningococcus Vaccine.—For description of Meningococcus Vaccine see N. N. R., 1913, p. 223. Shieffelin & Co., New York.

Coli Vaccine (Polyvalent).—For description of Bacillus Coli Vaccine see N. N. R., 1913, p. 221. Schieffelin & Co., New York.

Gonococcus Vaccine (Polyvalent.)—For descripn of Gonococcus Vaccine see N. N. R., 1913, p. 223. Schieffelin & Co., New York.

Pneumococcus Vaccine (Polyvalent).—For description of Gonococcus Vaccine see N. N. R., 1913, p. 223. Schieffelin & Co., New York.

Staphylococcus Vaccine (Polyvalent).—Schieffelin & Co., New York.

Staphylococcus Albus Vaccine (Polyvalent).—Schieffelin & Co., New York.

Staphylococcus Aureus Vaccine (Polyvalent.)—For description of Staphylococcus Vaccine see N. N. R., 1913, p. 225. Schieffelin & Co., New York.

Streptococcus Vaccine (Polyvalent.)—For description of Streptococcus Vaccine see N. N. R., 1913, p. 226. Schieffelin & Co., New York.

Typhoid Vaccine.—For description of Typhoid Vaccine see N. N. R., 1913, p. 227. Schieffelin & Co., New York.

Whooping Cough Vaccine (Bordet-Gengou Bacillus.)—This vaccine is prepared from the Bordet-Gengou bacillus derived from a case of whooping cough. Sophian-Hall-Alexander Laboratories, Kansas City, Mo.—(Jour. A. M. A., Sept. 6, 1913, p. 771.)

REFORM IN MEDICINES.

Elimination of Digitalis Bodies.—R. A. Hatcher studied the rate at which digitoxin and ouabain are eliminated from the circulation. He finds that digitoxin and ouabain leave the mammalian circulation very rapidly after their intravenous injection. He believes that the digitalis bodies are not fixed in the tissues but that they diffuse rapidly and are then eliminated.—(Jour. A. M. A., Aug. 9, 1913, p. 386).

Morlene.—Morlene is a worthless goiter and obesity nostrum sold by the Interstate Drug Company, Cleveland, Ohio. The firm's letters are signed by F. F. Finch who at one time was engineering a scheme by which physicians who prescribed certain products said to be made by the Wade Chemical Co., Chicago, would receive half the profit on the goods sold. Morlene is sold under the claim that, when used externally, it "will reduce goiter, tumors, thick neck, double chin, enlarged joints inflammation, bust and waist line." Examination in the A. M. A. Chemical Laboratory indicated that the composition of the specimen examined was essentially: alcohol (by weight) 53.32 per cent., soap 3.61 per cent., sodium iodid 12.01 per cent., sucrose (cane sugar) 12.87 per cent., water and undetermined matter (by difference) 18.19 per cent. Physiologic experiments showed that the sodium iodid in Morlene was not absorbed when the preparation was rubbed on the skin. Hence, Morlene when used as directed (by external application) cannot produce the effects claimed.—(Jour. A. M. A., Aug. 16, 1913, p. 505).

Hasty Generalizations.—The search for "specifics" has become so keen partly because of notable success in a few instances and the competition between drug manufacturers has become so great that here is at present an overshadowing danger from this sort of reckless medication that it may in the end react unfavorably on chemotherapy. An illustration of the insufficient evidence on which new therapeutic measures are based is given by Salkowski's experiments which indicated that cephalin, when administered, is stored in the brain. While in a limited number of experiments the retention of but five per cent. was indicated, Salkowski considers this sufficient to advocate the use of cephalin in progressive paralysis and other cerebral affections. As a result the use of cephalin will receive an impetus, as yet unwarranted by the evidence.—(Jour. A. M. A., Aug .23, 1913, p.603).

Suicide with Mercuric Chloride.—Recent newspaper accounts have given the impression that the ingestion of corrosive sublimate ensures not only certain but also painless death. As the dread of pain incident to suicide keeps many from talking the fatal step, the public should be acquainted with the fact that there are few modes of suicide more painful and in which the agony is longer drawn out than in death from mercuric chloride.—(Jour. A .M. A., Aug. 23, 1913, p. 606).

The Composition of Nostrums.—Himalya, the Kola Compound, though advertised as "Nature's Great Specific for the Cure of Asthma" is reported by the chemists of the North Dakota Agricultural Experiment Station to be "a weak hydro-alcoholic solution of potassium iodid, flavored with peppermint and licorice and colored with caramel." While the name would indicate that the active ingredient of the nostrum was kola, little appeared to be in the preparation.

Mrs. Bradley's Face Bleach is claimed to remove "moths, tan, freckles, pimples, blackheads" and to prevent "wrinkles oiliness and aging of the skin." According to the Druggists Circular it contains anhydrous magnesium sulphate 45.7 per cent., sodium chloride 9.7 per cent., mercuric chloride 23.6 per cent., water 23 per cent.

Dr. Felix Gouraud's Oriental Cream was analyzed by the state chemists of New Hampshire and found to consist of "approximately one-half ounce of calomel suspended in a short half-pint of water." More recently essentially the same composition was found by the chemist of the Connecticut Agricultural Experiment Station.

Cat-Er-No, Soules, according to the North Dakota Agricultural Experiment Station is an aqueous solution of menthol with just enough of a vegetable drug to give it a color.

Ely's Liquid Cream Balm, sold as a "remedy for catarrh, catarrhal deafness, hay-fever, cold in the head" according to the Connecticut Agricultural Experiment Station "appears to consist of liquid petrolatum with small quantities of thymol and menthol."

Dr. Boskano's Cough and Lung Syrup, a "new remedy for the positive cure of consumption, coughs, colds, etc.," was examined by the Kansas State Board of Health and also by the North Dakota Agricultural Experiment Station. The latter reports that it "appears to be made from an inferior grade of honey, syrup of tar, chloroform, alcohol and mrophin." The morphin was found not to be in solution, but deposited on the sides of the bottle. Yet the mixture did not bear a "shake" label.

Veritable Grains de Sante du Docteur Franck are claimed to prevent "typhoid congestion" and various other woes which arise from impaired intestinal functions. Examined in the Connecticut Agricultural Experiment Station, the grains were found to be essentially aloes.

Dr. Bloomer's Catarrh Remedy comes in cigarette form. Analyzed by the North Dakota Agricultural Experiment Station it was found to contain "chamomile flowers over 50 per cent., powdered cubeb, fennel seed, and a few other powdered vegetable substances."

Schenck's Pulmonic Syrup, a "seventy-year-old remedy for consumption, coughs, colds, diseases of the lungs and respiratory organs" was analyzed by the Connecticut Agricultural Experiment Station. The report states "This remarkable remedy for consumption is essentially a winter-green-flavored mixture of saccharin syrups, 96.4 per cent. of the solids consisting of sugar. It is hard to believe that the virtues of this material rests in the 2.7 per cent. of undetermined solids (possibly vinegar or squills.)

Dr. J. H. McLean's Tar Wine Lung Balm "Will cure coughs, colds, bronchitis, consumption, asthma, throat and lung troubles." According to the state chemists of North Dakota analysis of this preparation would indicate that it "is nothing but a weak syrup of tar, containing about 15 per cent. by volume of ethyl alcohol."

Dr. Gum's Pain Expeller, having been declared misbranded in Colorado some time ago, was examined in the North Dakota Agricultural Experiment Station. The examination showed opium and alcohol. Camphor and capsicum were also present.—(Jour. A. M. A., Aug. 23, 1913, p. 615).

Lactobacilline Liquide.—Lactobacilline Liquide has not been submitted to the Council on Pharmacy and Chemistry by its exploiters and no examination of the claims appears to have been made by competent investigators. Some years ago P. G. Heinemann examined Lactobacilline powder and Lactobacilline tablets and found the claim made for them unreliable. In view of this the claims made for Lactobacilline Liquide should be viewed with suspicion.—(Jour. A. M. A., Aug. 23, 1913, p. 618)

Tetanus Antitoxin.—A study of statistics leaves no room for doubt that tetanic antitoxin is well worth while as a curative agent in developed cases. In its use as a prophylactic agent, it must always be kept in mind that tetanus antitoxin does not remain long in the body. Vaillard states that the protective influence in man, lasts but one to two weeks. In those cases in which the complete removal of the infectious bacilli cannot be assured, a repetition of the injection is necessary. Cases of tetanus developing some weeks after a prophylactic use of antitoxin are occasionally observed, and are undoubtedly due to the neglect of this precaution.—(Jour. A. M. A., Aug. 30, 1913, p. 687).

MAR 23 1914

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Published Semi-Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $2.00

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky., under the act of Congress, March 3, 1879

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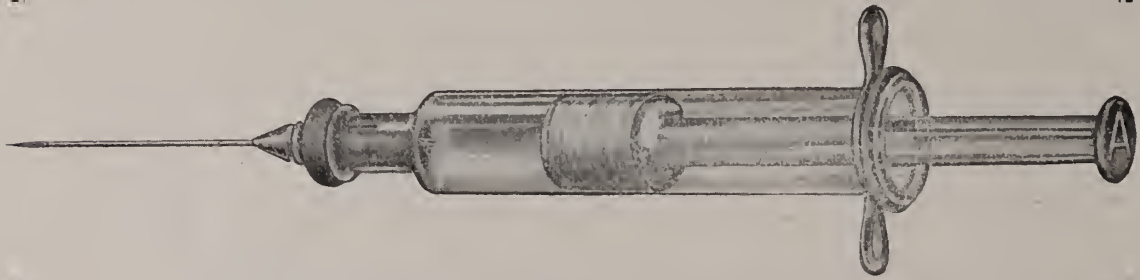

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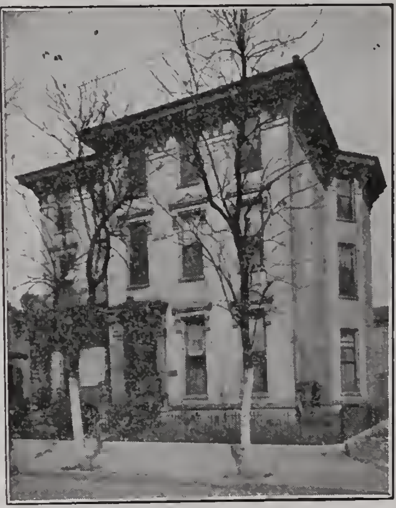

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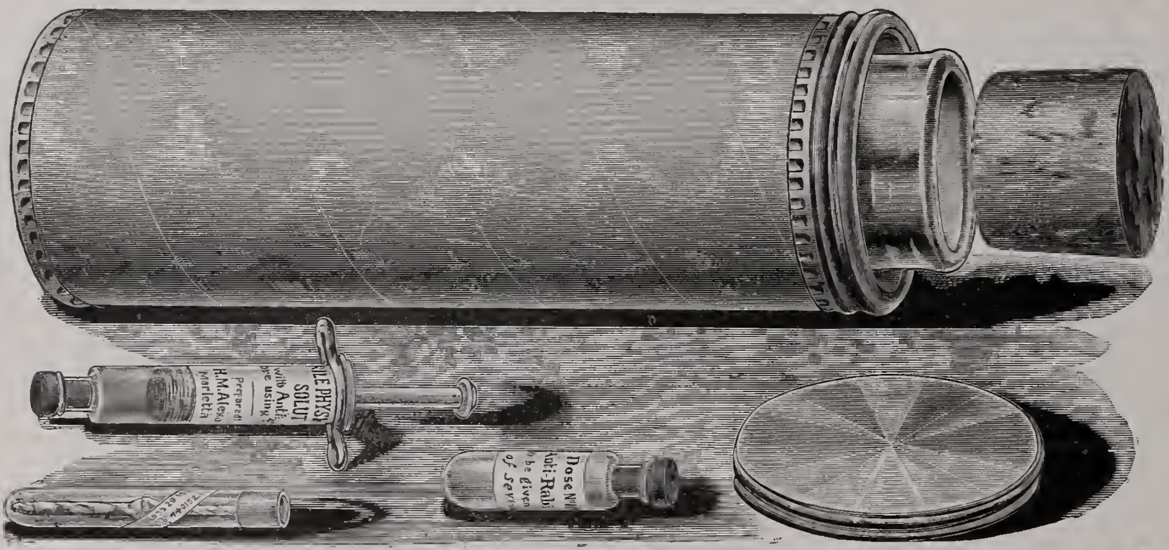

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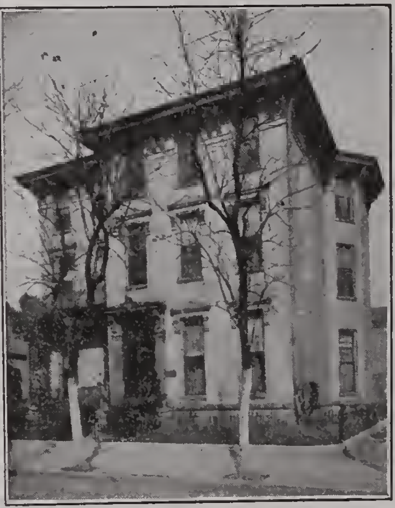

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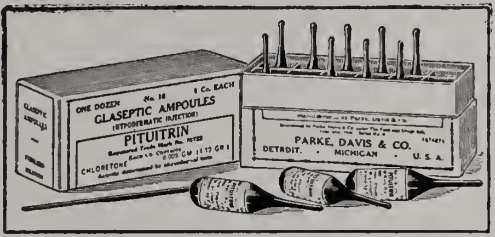

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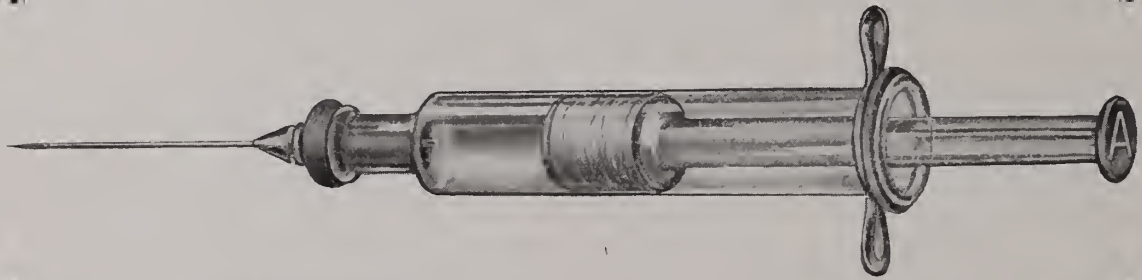

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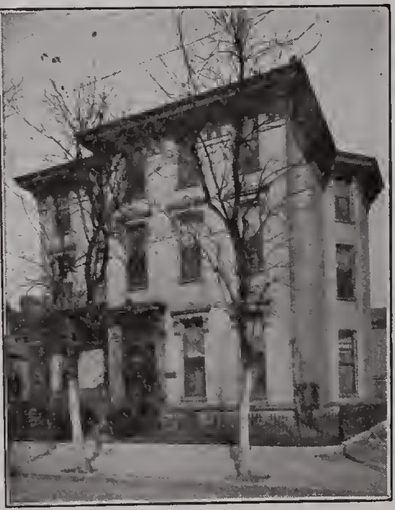

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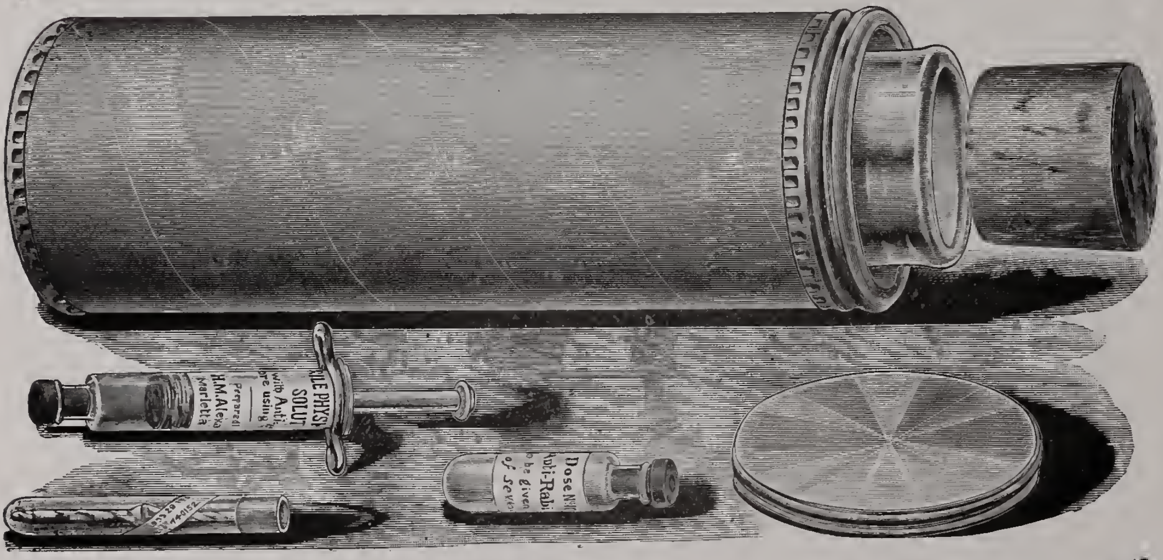

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Entered as second-class matter, Oct, 22, 1906, at the Postoffice at Bowling Green, Ky., under the act of Congress, March 3, 1879

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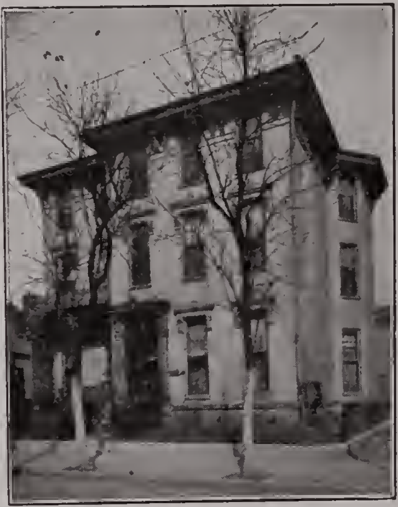

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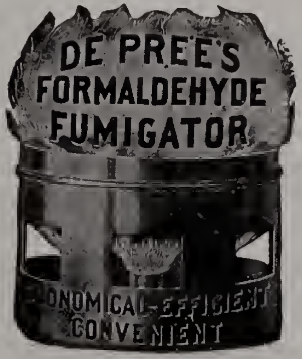

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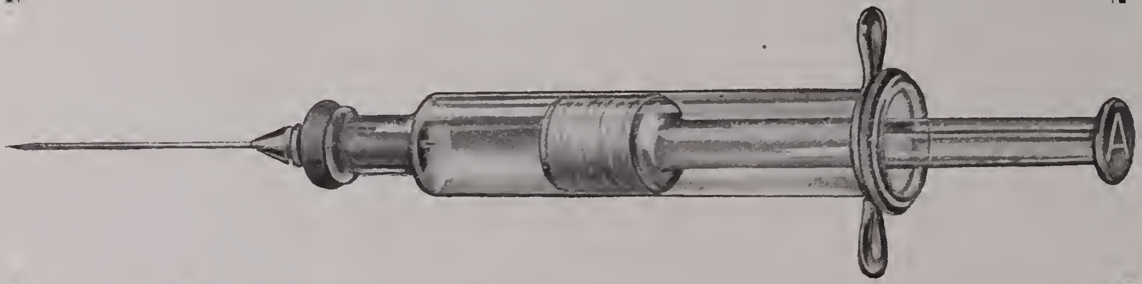

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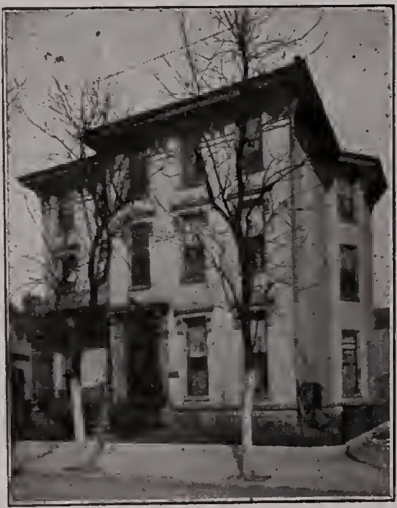

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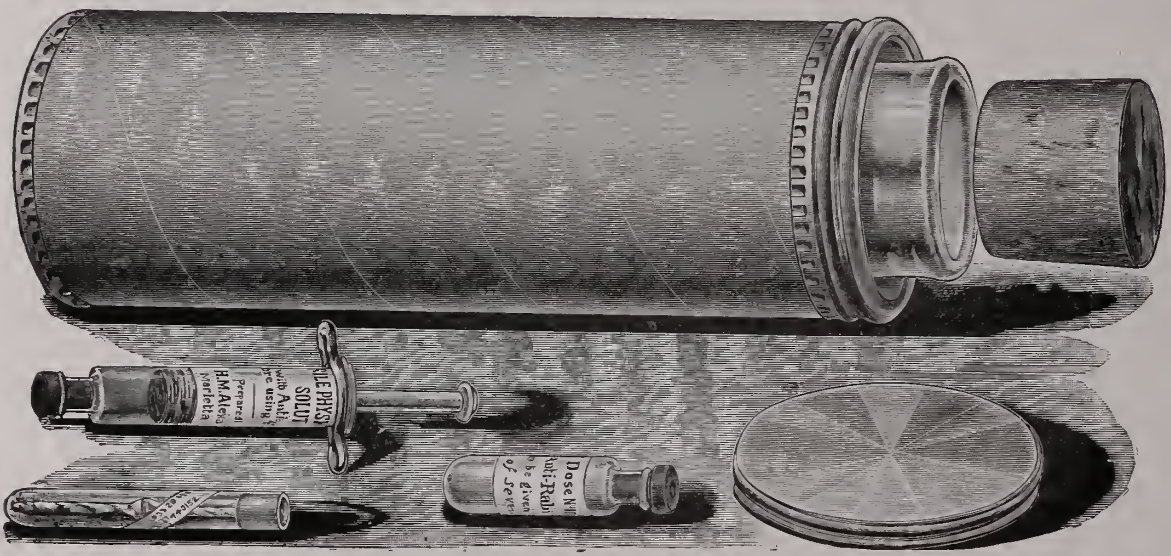

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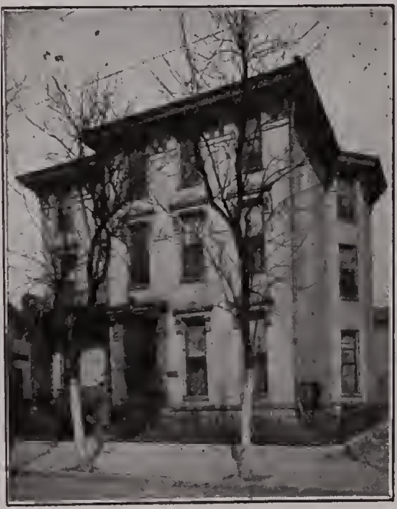

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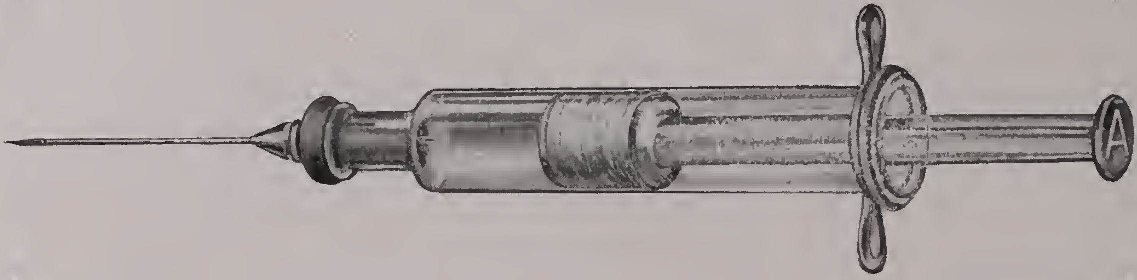

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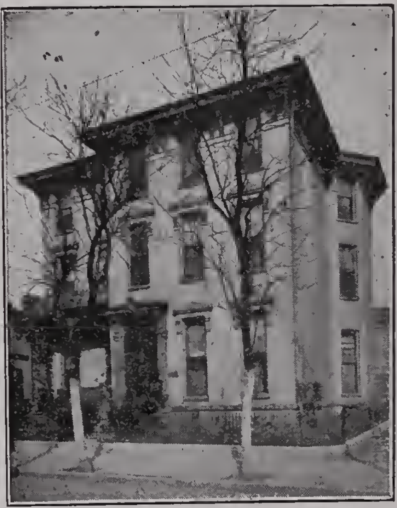

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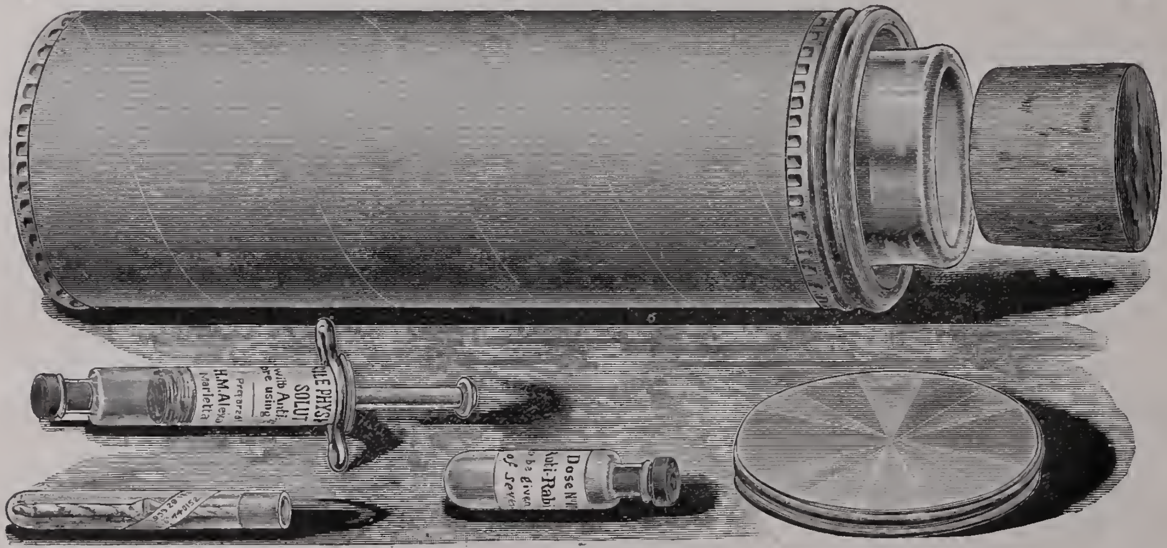

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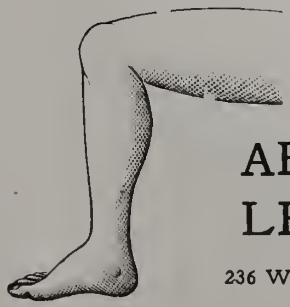

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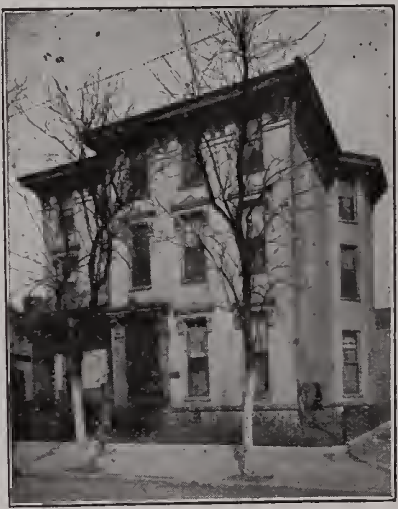

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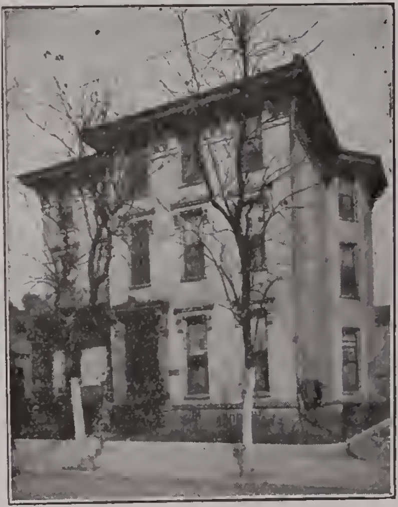

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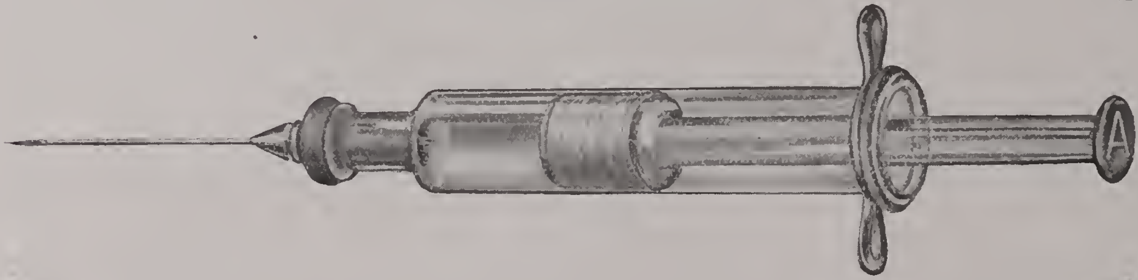

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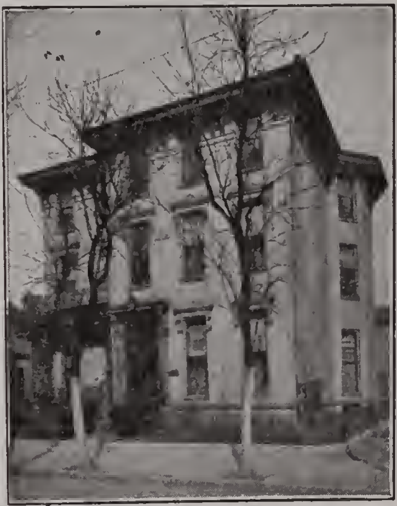

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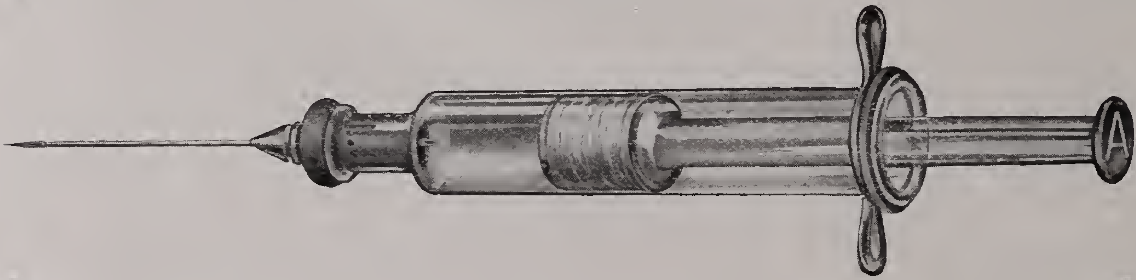

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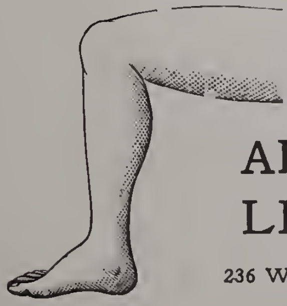

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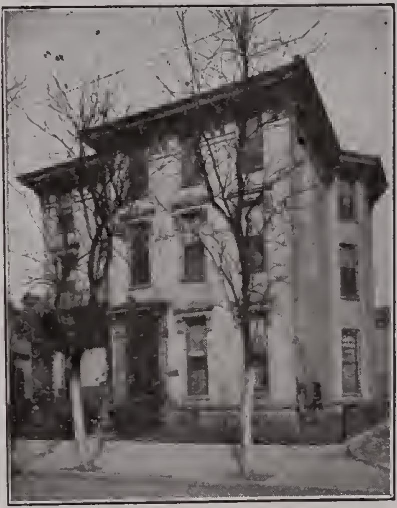

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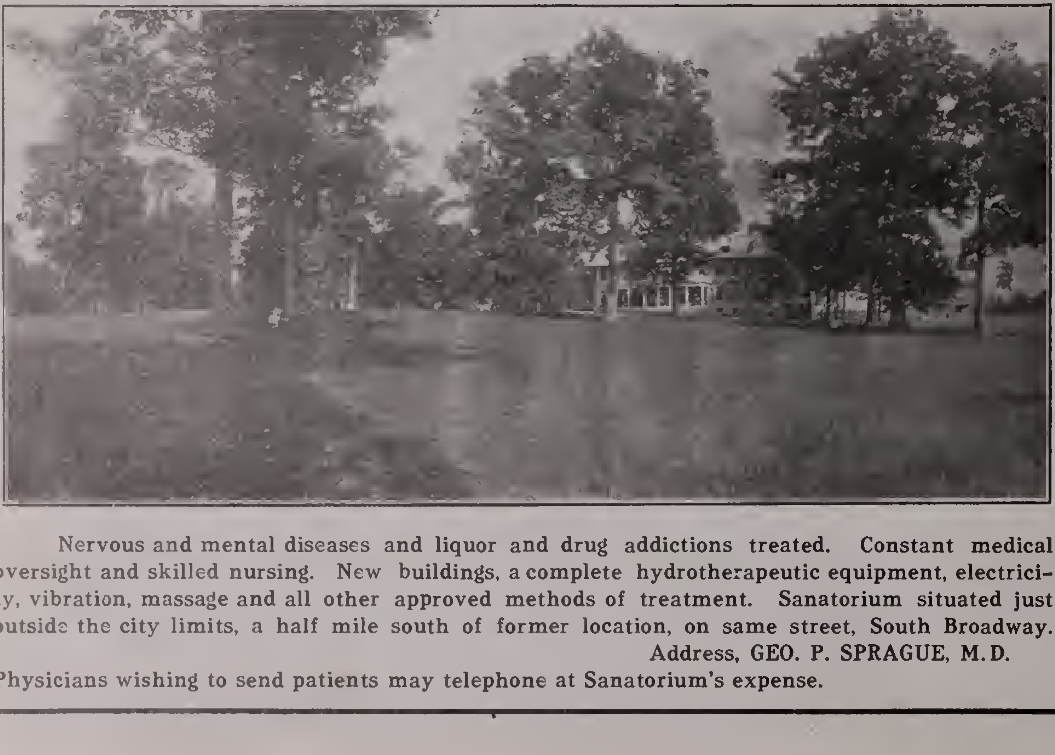

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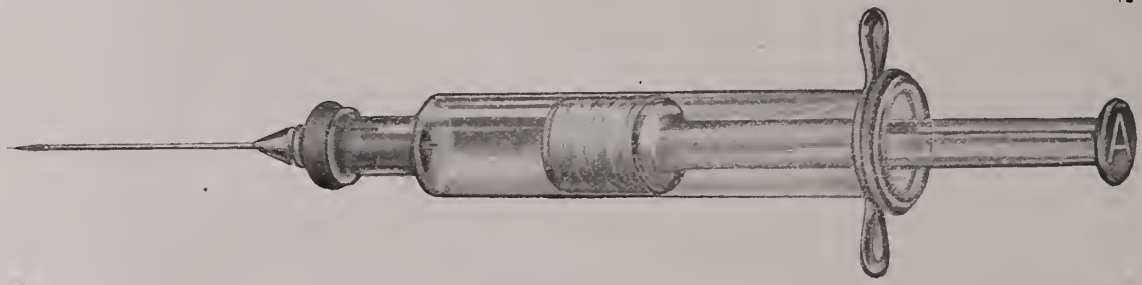

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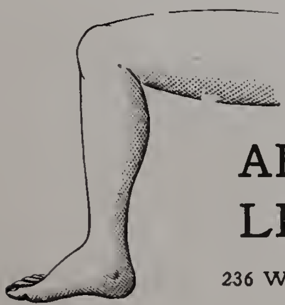

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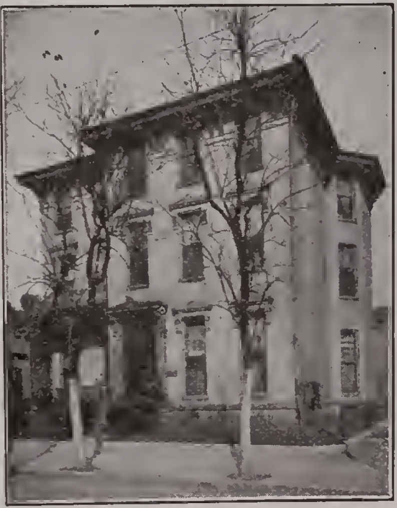

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